ENGINEERING NEWS-RECORD

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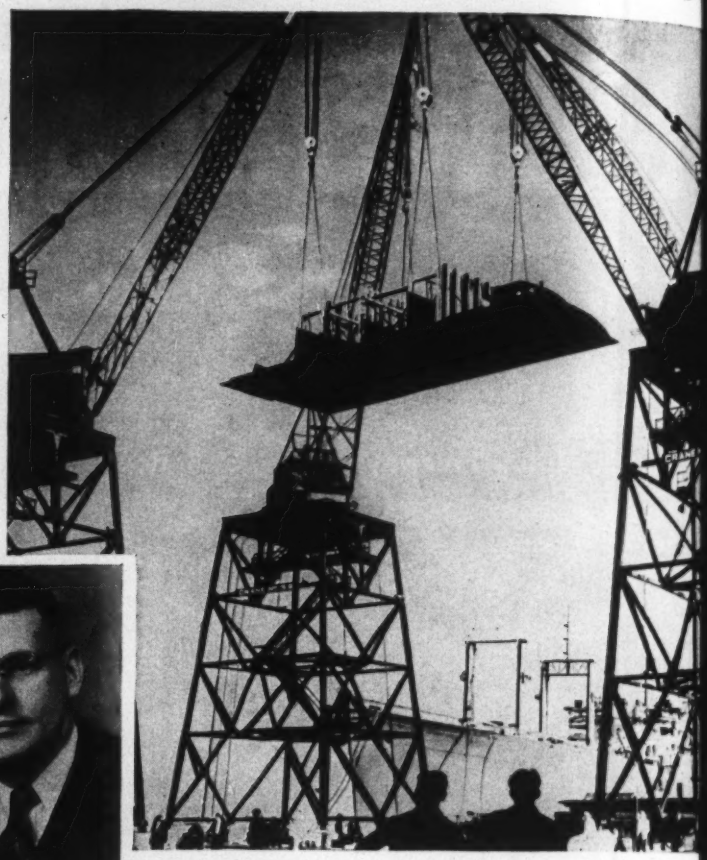
The Shipyard Crane That Makes Haste Slowly

by
W. C. Raube,
Industrial Engineering Dept.,
General Electric Company



ON shipyard cranes, accurate control of low speed while lowering equipment, sections of bulkhead, etc. into position, and the ability to *inch the load into place*, are important factors that enable shipbuilders to save time and increase production.

The recent stupendous expansion in shipbuilding—the yards for the most part being supplied solely with a-c power—emphasized the need for a braking hoist control which would provide such accuracy in load lowering. Automatic mechanical load brakes, used on cranes in machine shops, warehouses, etc. where the service is not severe, are unsatisfactory for shipyard use because of the excessive wear of friction disks and the resultant high cost of maintenance.

Thus, there was the problem of developing a type of electric crane-hoist control which would provide low-speed lowering, safety, and ease of spotting. A system was designed which uses d-c dynamic braking on a-c motors, the d-c supply being self-contained on the crane.

This system allows a wide range of low lowering speeds, and is far superior to any other type of braking hoist control. The lowest lowering speed (with full load) provided by other a-c control systems is still too fast for satisfactory and accurate operation. Using this system, on a typical controller having four low-speed points, full loads can be lowered at *62, 38, 16, or 6 per cent* of the rated hoist speed. This same control can lower a half load at *30, 19, 7, or 3 per cent* of the hoist speed.

This system operates in a conventional manner when lifting loads. When lowering a load, the stator winding is excited from the d-c source. The motor acts as a generator, and the energy of the overhauling load is absorbed as heat in the motor secondary resistor. The latter can be adjusted by means of the master switch. Thus the braking torque varies within wide limits, and the lowering speed can be controlled with great accuracy.

Equally important is the control provided, which enables the operator to lower an empty hook as accurately as he lowers a load. Either the empty hook or the load can be jogged into position with equal facility.

This is another example of the application of experience and skill by General Electric to solve a problem created by today's conditions. If you have a difficult problem on which we can be of help, we would like to work with you. General Electric Co., Schenectady, New York.

GENERAL ELECTRIC

The Week In Engineering and Construction

GINEERING NEWS-RECORD • OCTOBER 12, 1944 • VOLUME 133 • NUMBER 15

Construction supplies tight military and WPB agree

War with Japan will require even larger supplies after V-E Day; steel will be plentiful, also structural timber but lumber will be scarce; some WPB controls to remain.

ntinued prosecution of the war st Japan, after termination of the pean war will require from the d States as much construction ment and supplies as are now shipped to both theaters—and bly more—according to Lt. Col. A. Lewis, chief, Material Branch, Plans Division, Office of Chief of neers. He anticipates that even tonnage will be shipped abroad last quarter of 1945 than during ame period this year.

present, tonnage of engineer items ed to both theaters is fourth in a which quartermaster supplies are Shipments to the Pacific show termaster to be first, engineer items d, and air items third. It is ex- ed that after Germany has sur- ered, engineer and air tonnage will for second place.

Pacific war is different

e fact that the war against Japan is expected to take as much con- ction paraphernalia as is now re- ed to fight both Japan and Germany only indicates heightening of tempo e Pacific operations, but also points e fact that, as Col. Lewis put it, "the graphy of the Pacific has to be con- ed before the war can be fought." hereas at the ports of Naples and rbourg there were quay foundations to build on even after the enemy destroyed the wharves, and there a harbor with a considerable depth ater after the scuttled ships had raised, on the island stepping es to Japan a beach is usually the est resemblance to the harbor and that are needed for docking and ading purposes.

nd—to repeat what is already a liar fact—though roads have been ed and bridges blasted by the re- treating Germans, such projects can be rebuilt without the necessity for clearing the land as is often required in the Pacific. Thus, it is well to bear in mind, Col. Lewis says, in thinking of the quantities of materials required by the engineers in waging war, that in Europe, with its old civilization, only rehabilitation is necessary; while in the Pacific, with its backward civilization and its more or less primitive terrain, everything is required for new construction. Furthermore, improvements in the machinery of war have imposed a heavier task of preparation on the engineers.

While the military is thus anticipating V-E Day by planning for an intensified campaign in the Pacific, the War Production Board also is doing its planning, to the effect that the WPB is to be maintained, and sufficient controls continued until the defeat of Japan is assured; but that except for those controls which are absolutely necessary for the Military and to assure that possible civilian emergencies are met, a large percentage of all controls will be removed immediately upon defeat of Germany; also that the board will assist industry in its return to civilian activities. It is proposed to accomplish the latter through cooperation of the industrial advisory committees with industry, itself.

These proposals are contained in a policy set up by WPB, upon which WPB's Task Committee, appointed to work out details of the V-E Day plan, has arrived at a seven-point program which it has referred for consideration to WPB divisions.

The committee proposes to eliminate 350 of the 500 orders now standing. Of

(*Continued on page* 11)

Western contractors fear effects of new surplus property act

Fearful that recent enactment into law of the Surplus Property Act has closed the door on their prospects of extensive participation in the early postwar construction program, West coast contractors last week faced the future with mixed feelings of concern and indignation.

Outspoken resentment over what he termed "the odious equipment bill" was expressed by W. E. Hague, manager of Northern California Chapter, A.G.C. As cause for his concern over provisions of the act, Mr. Hague pointed out that governmental agencies and non-profit institutions are given priority over private contractors in the purchase of surplus equipment.

Contractor groups on the Pacific coast, in common with leaders in the industry in other states, had urged that surplus equipment held by the government be disposed of through legitimate channels (manufacturers and dealers) in order that they could replenish their depleted stocks in time to participate in the early postwar building program.

They also voiced concern over the possibility that certain state and federal agencies may seize upon the opportunity to obtain government equipment at reasonable costs and consider this as an opportune time for entering into competition with private industry.

Proof of the acute shortage of repair parts and new road building equipment in Western states has been indicated on numerous occasions during recent months. Two of the chief complainants have been California and Oregon.

Describing a "serious highway situation which is progressively becoming worse," Charles H. Purcell, California's state director of public works, attributed

(*Continued on page* 13)

War construction accidents reported at less than normal rate

Gratifying safety records on rush work under abnormal conditions revealed at National Safety Congress.

In spite of the huge, high-speed construction program of the U. S. Army during the past three years, the accident record of the construction industry in war time has been lower than ever before in its history, declared Lloyd A. Blanchard in speaking before the construction section of the National Safety Council at the Safety Congress held at Chicago Oct. 4-6. Mr. Blanchard is chief of the safety and accident prevention branch of the Corps of Engineers.

He pointed out there was every reason to expect an increase in the accident rate because of manpower shortage, use of much inexperienced labor and the fast schedules set for completion of the projects. Actually, however, the accident frequency was so much lower than usual "that the casualty insurance companies have suspended for the duration of the emergency the accident experience of contractors engaged in army construction, for purposes of premium rate determination."

Several factors were responsible for the improved accident rate, he said, but particular credit is due the regulations of the army engineers that call for specific safeguards, supervision by safety engineers, and strict allocation of responsibility for all accidents occurring on the job. This experience has shown, he pointed out, that "construction is just as amenable to accident prevention as other industries have been found to be."

To continue this record in peacetime, Mr. Blanchard said that the construction industry "must recognize that safety engineering is an established science and that effective accident prevention cannot be achieved by assignment of that responsibility to some superannuated employee or as additional duties for a timekeeper, or by the perfunctory display of posters and distribution of pamphlets. Every large general contractor should maintain a full-time safety engineer as part of the skeleton organization, and the smaller firms should require one of their engineering personnel to be completely trained in the fundamentals of safety engineering." He also warned that construction must have a plan for placing handicapped veterans in jobs they can perform and suggested that "more built-in safety devices should be demanded of manufacturers' construction equipment."

Job analysis shows dangers

Another speaker, F. J. Crandell, Liberty Mutual Life Insurance Co., Boston, Mass., outlined a simple method of job analysis for discovering potential accident hazards. He recommends preparing a job layout in advance of the start of work that includes the spotting of all plant in relation to the project structures and a flow diagram of all equipment movements. Study of such a drawing, he contends, will reveal possible interference of: (1) men and men, (2) men and equipment, and (3) equipment and equipment.

As an example, Mr. Crandell showed a diagrammatic plant layout for pouring a high, narrow concrete wall where the contractor trucked concrete from a job central mixing plant to cranes for bucket placement in the forms. Analysis of the original scheme of operations revealed interference between the cement and aggregate trucks in reaching the mixing plant because of the location of the plant in relation to the roads. There was also conflict between empty material trucks and those hauling concrete.

The speaker showed how a change in plant location and a re-routing of truck traffic not only eliminated the potential interference of trucks with each other, but also speeded up and smoothed out the hauling operations. A change in proposed positions of the cranes, suggested by the same analysis, reduced the necessity of swinging loaded buckets over men working inside the forms. Placing a movable platform on top of the forms for the bucket men to stand on, and adding a tagline to the bucket to square its discharge gate lengthwise of the forms cut out further potential dangers. It was obvious to the audience that the suggested changes made not only a safer job, but a more efficient one as well.

Mr. Crandell and another speak
V. E. Gunlock, chief engineer, Chic
department of subways and superh
ways, both went into the design of co
dams from the standpoint of saf
They declared that safety in cofferd
design can come only from an analy
of stresses involved in the structure
ing construction. Mr. Gunlock by
grams on a screen, showed how both
sheeting and upper sets of wales
struts are overstressed in the
cofferdam design as the water is pum
down.

The complete bracing and supp
system is often adequate only after
entirely in place, but the various
ments are frequently overloaded bey
their capacities during construction.
suggested three remedies: (1) Ins
temporary intermediate sets of w
and struts as the water is pumped d
to the point of placement of the
set below, to compensate for the
load otherwise thrown on brac
members already in place as well
on the sheeting; (2) design the set
take the construction loads (usu
uneconomical) or (3) place all
bracing under water before pump
is started.

Mr. Gunlock also discussed co
dam design in dry and wet gro
according to information revealed
soil pressure studies made during
struction of the Chicago subw
These studies showed that actual
pressures against a wall do not fol
heretofore accepted theories, he m
tained, and safe design of tempor
retaining walls and cofferdams in e
requires a careful analysis of soil
tion.

Kenneth F. Park, Caterpillar Trac
Co., Peoria, Ill., discussed operat
of bulldozers from the standpoint
safety. He outlined numerous c
mon mistakes that operators m
which often result in accidents.
told how they can be corrected.

Officers serve again

All of the officers and most of
committee chairmen were elected
serve for another year. G. O. Gri
Dravo Corporation, Pittsburgh, Pa.,
general chairman. Vice-chairmen
L. A. Blanchard, Corps of Engine
Washington, D. C.; E. A. Blan
Kansas City Bridge Co., Kansas C
Mo.; and L. D. Wise, Pennsylv
Dept. of Highways, Harrisburg.

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W. G. Payne, St. Louis; R. N. Phelan, Los Angeles; J. I. Ballard, Boston; Ralph Maultsby, Atlanta, Ga.

Tools from the War" is theme of ublic health meeting in New York

blic health engineers told of Army water supply program and vance in industrial waste treatment practices.

eme of the second wartime public conference, held in New York eek when 13 associated organiza- met jointly with the American Health Association, was "Tools the War".

lining the measures taken by the ative Medicine Service of the Medical Department to safeguard uality of all water used by the Col. W. A. Hardenburgh, direc- the Sanitary Engineering Divi- told of the adoption of state sani- ngineering standards of practice e of the first steps in the control op water supplies. This practice, ding the use of effective free ne residuals, was extended also to municipal or other plants when water for troop use was supplied through purchase. "In general," he said, "our records show that the average quality of purchased water supplies, before rechlorination, is inferior to Army-produced supplies."

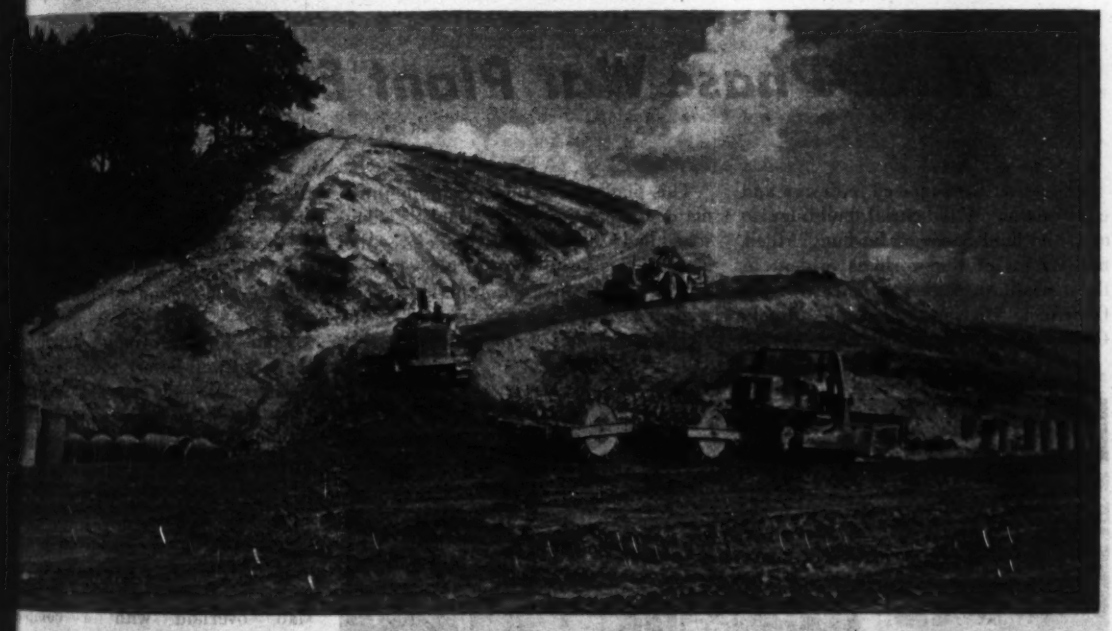
In speaking of the important work done by the water equipment laboratory in developing field water supply equipment Col. Hardenburgh mentioned new rapid-acting well-drilling equipment (*ENR* Aug. 31, vol. p. 252) and distillation units of astonishing efficiency (*ENR* Aug. 31, vol. p. 252; Sept. 7, vol. p. 263).

Experiences in the construction and maintenance of Army water supplies in foreign areas were related by Capt. J. B. Baty of the Sanitary Corps, who spoke particularly of the problem of supplying adequate water facilities for mechanized warfare vehicles and for troop bathing uses, especially in the tropical regions where hard waters subject to schistosomiatic infection are prevalent.

Industrial waste treatments reviewed

Despite the many factors which have retarded progress in the field of industrial waste disposal, some notable accomplishments have been recorded according to Loring F. Oeming, sanitary engineer, Michigan Stream Control Commission. "Examples are found," he said, "in the chemical industry in the treatment provided for its phenolic wastes, in the control of brine and acid wastes resulting from magnesium products and in the metal working and plating industry where facilities for the elimination of acid, oil, and cyanide pollution have been installed.

(*Continued on page 6*)



Dam building methods used on a highway fill at Cleveland

thods commonly used in earth-dam con- on are now being used by the Ohio tment of Highways in building fills for illow Freeway in Cleveland, the first ries of freeways to be constructed in ea.

Willow Freeway connects with a previ- mproved highway and will bring U. S. 21 on a new location from the old Canal on a direct route to downtown and. It will be 8,776 ft. long and will wo 36-ft. paved lanes, which will be sep- arated by a 9-ft. median zone width.

Embankments are being placed in 8-in. layers, loose measurement. Because the ma- terial being incorporated in the embankment is of high silt content, the specifications re- quire that the moisture content of the com- pacted material must be below the optimum. This frequently requires considerable disking and blading, which during dry periods raise considerable dust on the surface. Instead of sprinkling the dusty areas, wet borrow is spread over them and rolled with a sheeps- foot roller to knead the moist material into the dusty surface layer. The surface then is dried out for dry enough for compaction.

It has been found that an I-beam dragged over the compacted area at the close of the day's work is helpful in eliminating depres- sions caused by the sheepsfoot roller, which might trap rain water in case of a storm.

Lombardo Bros. Construction Co. is the contractor, and Edward W. Chadeayne is project engineer for the state highway de- partment.

Started before Pearl Harbor, steel-frame construction was possible for the first unit of this aviation engine plant

Three-Phase War Plant Expansion

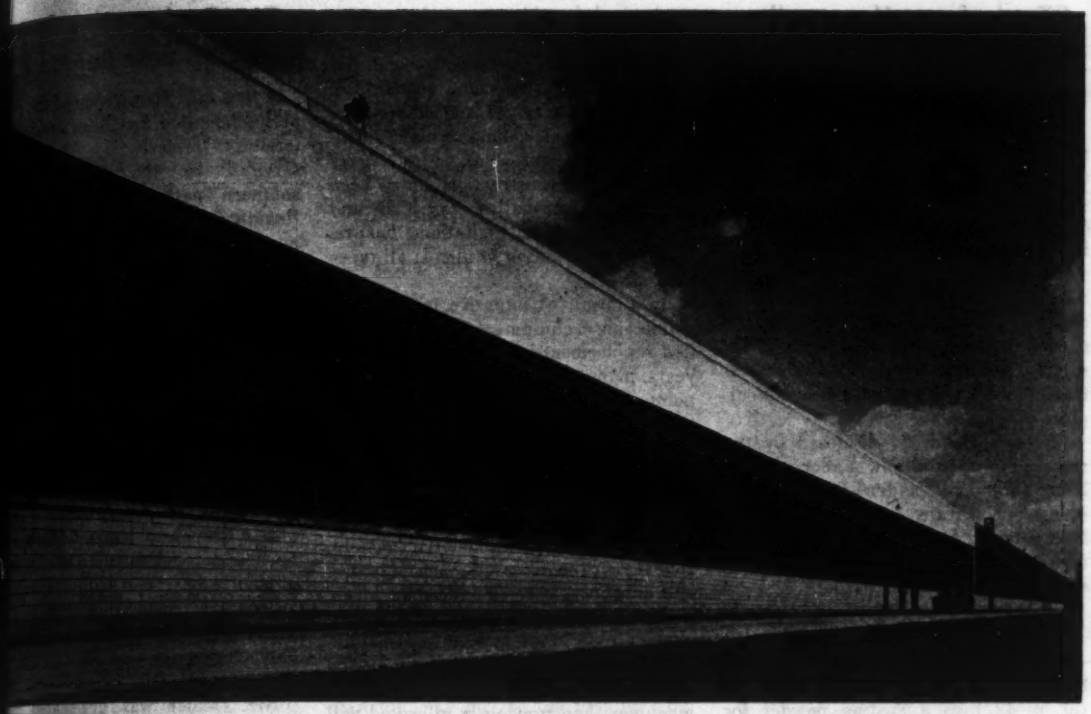
The versatility required in design and construction of industrial buildings to meet the fluid needs of far-flung Allied battlefronts of the world is evident in the aviation engine plant of the Chevrolet Division, General Motors Corp., at Tonawanda, N. Y.

This plant is now undergoing its third major expansion, this latest being scheduled for completion before the close of this year. Several phases overlapped in the construction period; sandwiched between was the interval of restrictions on the use of structural steel and other basic materials. When project currently laid out is comple the two ends of the main manufactu plant will be of steel-frame construc with a mid-section of reinforced crete.

Plans for the original building prepared well before Pearl Harbor, construction was started in Oct 1941. Steel-frame construction was throughout for the one-story manu turing and engine assembly plant a Exterior walls are almost wholly steel sash, with a base course of tile, and asbestos protected metal tends from sash to roof line. Pre concrete tile was employed for the slab, overlaid with a compos built-up roof.

The layout of this area include mezzanine floor for service facil such as offices, lockers, toilets, etc., a basement was provided under this tion. At one end of the building truck and railway receiving docks. plant hospital is provided in the c of the production department. Fl are of wood block; fluorescent lig is used exclusively in the manufactu area. Both floor and overhead con systems are provided to service the duction floor.

A section of the engine assembly area of the original building showing steel truss, beam and column construction. Same type of construction was used for the third extension, completed in September.



rced concrete construction was mandatory for the second expansion unit due to the War Production Board's ban n use of structural steel. Window frames are wood. Original steel unit is shown at right.

er Pearl Harbor, and while con- tion was still under way on this construction phase, government ls ordered the size of the manu- ring and assembly area and engine cells doubled. Plans were drawn extension to the original building, the architectural and structural n followed those of the old struc- -the same type of materials being ed.

e second phase of construction was d by April, 1942, and after it was along, with contracts let for the ary steel and other materials, the roduction Board's ban on the use uctural steel necessitated another change in plans. Without loss of uction time, reinforced concrete ubstituted for steel, wood sash be- mandatory and construction con- without change in the building sions. The juncture of steel and te sections is obvious, but not ob- able, in the exterior appearance. employee service facilities re- as a result of this second expan- plan necessitated inclusion of a ent under the main manufactur- tension. Here are located lockers, rooms, cafeterias, kitchens and a room for plant executives. This of the project was completed in 1943.

third construction phase was be- n May, 1944, to provide for the acture of a different and larger engine than was originally scheduled. This phase called for a further plant extension, which was completed in September, and for rearrangement and modification of all existing test cells, the latter scheduled to be finished by December 15, 1944.

Since structural steel was again available, this latest addition follows the pattern of the original building, with structural steel framework, steel sash and exterior dimensions identical with the first unit in the layout. Likewise, floors, lighting and other interior arrangements are similar, including a mezzaine floor for service facilities.

Albert Kahn Associated Architects and Engineers, Inc., was the architect. The first two construction phases were completed by Darin & Armstrong, Inc., Detroit, general contractors, and the last phase, including modification of test cells, was under contract to the John W. Cowper Co., Buffalo.

Part of the engine assembly section of the second unit showing reinforced concrete column, girder and beam construction. Production line conveyor system is well illustrated.

"Tools from the war" for public health

(*Continued from page* 3)

"Efforts toward pollution control in the paper industry have been largely directed toward fiber recovery and water reclamation. Further improvements in the form of sedimentation are being found necessary in many instances. Clarification of wastes by settling or flotation has been successfully applied at some mills. Research is needed to develop practical methods for solving problems presented by wastes from de-inking, straw, sulphate and sulphite pulping processes.

"Present trends as disclosed by the research programs now under way or being formulated under sponsorship of industrial, private or public agencies hold promise of providing the methods for increasing the protection of our streams in the postwar period."

DDT proves good insecticide

The control of typhus fever in Italy by the use of DDT (see *ENR* Oct. 5, vol. p. 427) as a dusting powder for louse extermination was described by Major Charles M. Wheeler, Sn C. The experimental work in developing this powerful new insecticide for postwar use was also described, emphasis being placed on its probable agricultural and vermin-extermination uses.

Newly elected officers of the engineering section of the A.P.H.A. for the coming year are: Chairman, Alfred H. Fletcher, associate in sanitary engineering, The Johns Hopkins School of Public Health; vice chairman, W. Scott Johnson, chief public health engineer, Division of Public Health and Industrial Hygiene, Missouri State Board of Health; and secretary, John Hepler, associate director, Bureau of Engineering, Michigan State Dept. of Health.

• • •

Highway maintenance demands new equipment

The government agency group of the Construction Machinery Advisory Committee insists that additional equipment is immediately necessary to do essential highway and street maintenance. It suggests that equipment for maintenance of highways is more important at this time than release of the same equipment to haul loads over broken down roads. The government agency group is composed of maintenance men representing state, county and municipal agencies throughout the country and is headed by H. G. Sours, of the Ohio department of highways.

At a recent meeting in Chicago it was emphasized by this group that everything possible has been done to keep roads and streets in passable condition but that many important roads have been severely damaged and others have reached critical points where disintegration will soon occur. Many roads of secondary construction have been subjected to unusually heavy loads and relaxation of load limitations has resulted in overloading of almost all types of highways.

As a result of intensive use of road maintenance equipment, with very limited replacements during the past three years, many machines have reached the point where they can no longer be repaired and in order of importance must be scrapped. Machines most needed are trucks, motor graders, tractors and similar equipment, bituminous distributors and patching devices, snow handling machines, small concrete mixers, rollers, air compressors, small cranes and draglines, sweepers and mud jacks.

Trucks were said to be the most important tools used in highway maintenance and construction and to be the most critical of the items needed. More machines than previously allocated will be required. Better priority ratings for procurement of tires needed for road and street maintenance equipment are said to be absolutely essential to continued use of even existing machines.

• • •

Air Forces to maintain Army airports

Effective Oct. 1, responsibility for the immediate direction and supervision of repairs and utilities on airports and other installations of the Army Air Forces in the continental United States, was transferred to the Army Air Forces from the Service Commands of the Army Service Forces. In instances where a Post Engineer located at an installation of the Army Ground Forces or Army Service Forces is serving a station of the Army Air Forces, the Service Command will continue to be responsible for direction and supervision of the repairs and utilities work.

The military and civilian personnel of the Post Engineer's repairs and utilities organization at stations of the Army Air Forces, will be transferred to the Army Air Forces. The Post Engineers will continue to be members of the Corps of Engineers but will be assigned to the Army Air Forces for this duty.

The Chief of Engineers will continue to handle improvements and new construction. The Engineers will also continue to prescribe uniform technical procedures, policies, and engineering practices and will budget and recommend distribution of funds.

The Reclamation Bureau sets up new Region 7

A new field subdivision of the Bu of Reclamation has been created f territory formerly serviced by the southern part of Region 6 and the northern portion of Region 5. It includes practically all of Nebraska, eastern Colorado, southern Wyoming, western Kansas, and a small part of southern South Dakot Nebraska, its east border is the Miss River. Headquarters will be in Den

Erdman B. Debler, formerly dire of the Branch of Project Planning, been appointed director of the new gion. He has been with the bureau years and, until the decentraliza plan went into effect a year ago, chief hydraulic engineer in charge planning.

Mr. Debler was graduated in engineering from Nebraska Univer and had seven years experience private irrigation companies in Id and Colorado in addition to spen four years on railroad work before j ing the Bureau of Reclamation.

The outstanding project under c struction in the new region is the C rado-Big Thompson, of which G Mountain Dam and power plant ar operation. Work is under way for diversion of water, by next year, t this basin to the South Platte Basi northeastern Colorado through the A B. Adams Tunnel, which penetrates Continental Divide.

Two other projects which would for transmountain diversion of w from the Colorado basin to ea Colorado are under study. One is Blue River-South Platte project, w would transfer water to supplement municipal supply of the city of Den and to provide for irrigation in the s The other is the Gunnison-Arka project, which would supplement ex ing supplies in the Arkansas R Basin in Colorado.

The new region also includes two clamation projects now in operation, North Platte in Nebraska and Wyom which irrigates 200,000 acres; power features at Seminole Dam of Kendrick project in Wyoming.

Buenos Aires, Argentina, has w $25,000,000 for building, rebuilding repairing pavements.

onstruction Communiques

Engineering news from the battlefronts

gineer Memorial—The first Nazi ox captured by U. S. Army Engi- who landed on the Normandy 20 minutes before H-hour on will become the site now for a memorial to be erected in honor of engineers who died there on the

memorial will be provided by an eer Special Brigade on the pill- ite where the unit's first headquar- was established just off shore. Until war's end, when the memorial will ally completed, the pillbox is being d to enclose a plaque engraved with ames of the engineers who died in operation.

ilroads and Bridges—"American eers already have rehabilitated miles of railroad and have built than 100 bridges in France since y," says John O'Reilly in a dis- to the New York "Herald-Tri- ." "Sometimes working within y artillery range, they have built across the Seine and other con- al rivers. One bridge they built the Eure River is 300 feet long, another across the Mayenne is 100 high. The latter was knocked out American bombers, rebuilt by the ans, smashed again by the Royal Force and finally rebuilt by the icans after its capture.

en regiments, consisting of 13,000 are now making repairs on the oads. Besides laying track to patch attle-wrecked roads they have built major marshaling yards on land was formerly French farms. One m has thirty-three tracks totalling miles. And almost all of this has been done in approximately months."

elines—Pipelines for the world's at petroleum distributing system, ted in France by U. S. Army Engi- , are being pushed to the front now pace which has already reached a ile-a-day mark.

is was disclosed Sept. 14, by Engi- under Maj. Gen. C. R. Moore, f Engineer of the European Theater Operations, as the race to keep rican armored columns supplied petroleum on the German front d momentum.

illions of gallons of gas and oil, it ported, are being pumped from the ine terminus on the docks at bourg where convoys of tankers rushed from England and the U. S. are now being drained on a round-the-clock basis.

Pumping stations scattered throughout France on the route to the German front are maintaining a steady flow of the petroleum while engineer crews rush the completion of new sections of the giant pipeline system. Light alloy pipes, devised specially for this operation by the U. S. Army Engineers and American commercial oil companies, are being used.

New-type Army Engineer organizations, Engineer Petroleum Distribution Groups, are handling both the construction and operation of this pipeline system. Personnel for these new engineer organizations were recruited from the oil fields of Texas, Louisiana, Oklahoma, and California.

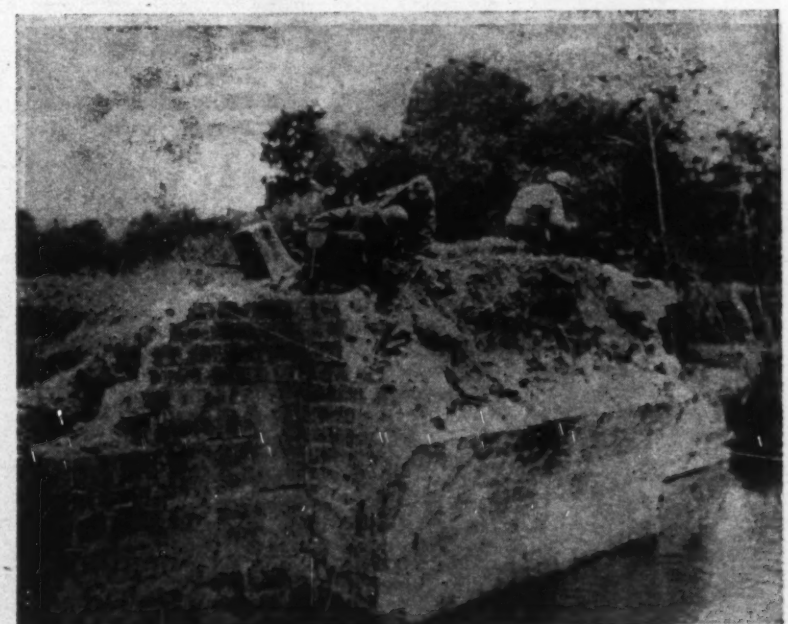
At least once the rapid pace of construction has carried the pipeline engineers well into enemy territory. During the Normandy campaign, engineer surveyors plotting the course of the rapidly-advancing pipeline found themselves behind the German lines, well ahead of the forward U. S. units. Seventeen Nazi prisoners were brought back by the engineer survey crew.

Normandy—Flak suits borrowed from the air forces were used on D-Day to protect engineer bulldozer operators on the beaches of Normandy, it has been disclosed by Maj. Gen. C. R. Moore, Chief Engineer of the European Theater of Operations for the U. S. Army.

The suits afforded a measure of protection against shrapnel and small arms fire as the engineers launched bulldozer after bulldozer through the surf to the invasion beaches, General Moore said. Shells, however, took a heavy toll of the giant engineer machines.

In many cases, he said, as bulldozer operators became casualties, other engineers arrayed in air force flak suits rushed forward to replace them on the machines. Almost all of the bulldozers used in the initial stages of the invasion operation were protected by special armor plate, but losses, were high.

The bulldozers were used initially to clear lanes through the sandy beaches where landing craft might discharge tanks and vehicles. Other bulldozers plowed through obstacles erected by the Germans, while more of the 23-ton machines cut through the hills beyond the beach, improvising road exits for the waves of disembarking invasion troops that followed.



American Engineers neutralize mines

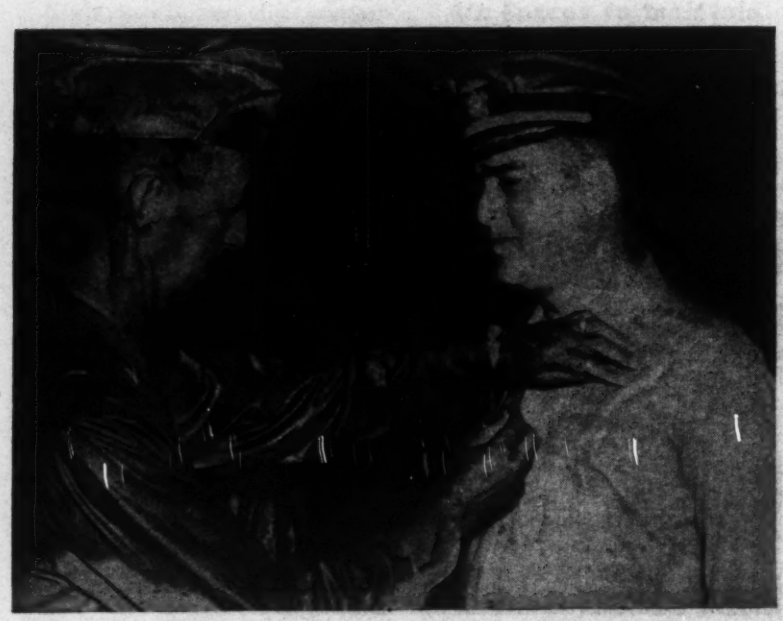
One of the tasks assigned to Engineer units in France is neutralizing unexploded bombs and mines left by the retreating Germans. Here shown are engineers removing detonators attached to 200-lb. shells that had been buried behind the abutment of an old French road bridge to complete its destruction. Collapse of the arch span under the effect of other mines revealed the noses of the unexploded shells and these are being removed.

MEN AT WORK

G. H. MATTHES, director, U. S. Waterways Experiment Station, Vicksburg, Miss. (left) explains the working of a river barge model to DR. HUMBERTO B. A. MOREIRA, Brazilian engineer, an employee in the National Department of Ports, Rivers and Channels, who is studying laboratory methods now being conducted at the station for the elimination of shoaling at harbor entrances, silting, river bank stabilization and wave action, in connection with Brazil's plans for establishing a similar waterways experimental station.

Playing a prominent role in disseminating gineering news of the U. S. Army Engine*BRUCE TUCKER, public relations officer* the Mississippi River Commission, Vicksb Miss.

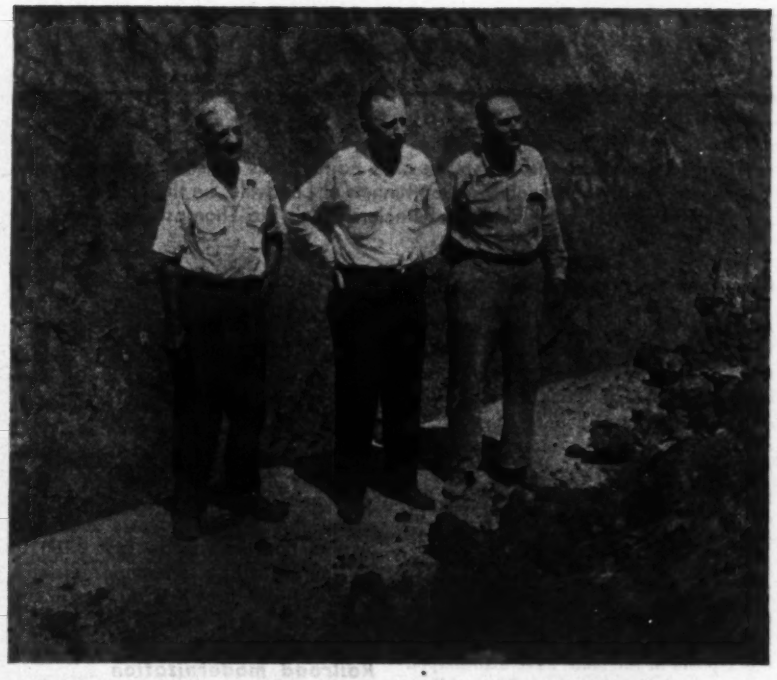
AL HUNTINGTON, one of a long line of neling Huntingtons, stands alongside a verted Conway mucker to which he added overshot loading bucket and a 30-ft. belt veyor for loading two cars at once. Al charge of driving the intake tunnel at Au son Ranch Dam, Idaho, for Morrison-Kn Co.



In a pouring rain, out on a far Pacific island, BRIG.-GEN. LEONARD R. BOYD, U.S.A., pins a bronze star medal on COMDR. WILLIAM W. STUDDERT, U.S.N.R., from Midland, Texas, who is commanding officer of a naval construction regiment. The citation, signed by Adm. W. F. Halsey, U.S. Navy, reads, in part, as follows: "Commander Studdert was responsible for the development of the airfields, roads and the naval base at Emiraw, St. Mathias Islands. Through his brilliant leadership and tireless efforts, these installations were constructed in the minimum of time, despite adverse weather conditions and inadequate transportation facilities."

...seen except in tunneling clothes, ...ERT A. ELGIN (left), project engineer ...the U. S. Bureau of Mines and JOHN R. ...STIN, project manager for Stiers Bros. ...truction Co., dress up to pose at the ...d of the Leadville drainage tunnel, Lead-..., Colo., which they are driving through ...of the toughest ground in the country ...the Bureau of Mines.

...ing to rest on one of the 13 concrete ...es over the Wichita Drainage Canal, ... BROCKWAY, city engineer of Wichita, ..., for the past 27 years, looks out upon ...of his engineered civic improvements.



Watching backfill being placed on a large storm relief sewer in Tulsa, Okla., are (left to right): C. M. DOWNING, inspector; P. W. GULLEY, assistant city engineer in charge of surveys and construction; and F. M. STOWELL, contractor on the job.

Key men engaged in the recent removal of a portion of the overturned Mississippi River bridge at Chester, Ill., are: COL. L. B. FEAGIN, St. Louis district engineer, U. S. Army Engineers; W. C. KOONTZ, construction superintendent and W. H. O'DONLEY, general superintendent, both of the Massmon Construction Co., Kansas City, Mo., contractors on the job.

FROM AN EDITOR'S NOTEBOOK

Out in Colorado and Idaho, an *ENR* editor finds construction under way at Anderson Ranch Dam, on tunnels at Leadville, on the D. & S. L. (Moffat) Ry. and the Bureau of Reclamation's Big Thompson project.

G.I. Joes to the rescue

Anderson Ranch Dam, Idaho—Soldiers from Mountain Home Air Base, 35 miles away, are helping to build this highest of all earth dams, rising 460 ft. out of the canyon floor. A group of enlisted men, mostly non-commisioned officers, on night duty at the Base are picked up early in the morning by the contractor's bus and reach the dam at 9 a. m. After six hours' work at the job they are returned to the Base for a few hours' sleep before going on duty again there. Quite a few men on furlough from Mountain Home Base and other posts in the state have also helped reduce the labor shortage. The soldiers fill in as needed on almost any class of work, serving as surveyors, mechanics, equipment operators and laborers. They are paid, of course, the prevailing hourly rate for the type of labor performed.

The Bureau of Reclamation and its contractors on the job, the combination of Morrison-Shea-Twaits-Winston, are rushing the project this year in hopes of building the embankment high enough to create a substantial storage of next spring's floods. Additional water is badly needed on the Boise River irrigation projects downstream from the dam. Chief among many construction features is moving half the 9-million-yard fill by 1½ miles of belt conveyors that lead from a borrow pit on the bench 1,200 above the dam. Details will be covered in an article to appear in these pages before long.

Leadville mine revived

Leadville, Colo.—Up here on the roof of the continent (El. 10,250) resumption of mining to produce war-needed minerals and two big tunnel jobs have revived this famous old mining camp. One of the two tunnels is the Winston Bros. job of driving a new hole 2,500 ft. long under nearby Tennessee Pass on the old main line of the Denver & Rio Grande Western R. R., alongside the old tunnel. The original bore was tight for the Rio Grande's big engines, and settlement of old timber supports hasn't helped the situation. The new tunnel, 16 ft. wide and 26 ft. high inside of concrete lining, can accommodate the biggest engines the railroad now has in its possession or ever expects to own.

The other tunnel, smaller in section, but over three miles long, is being driven by Stiers Bros., of St. Louis, for the U. S. Bureau of Mines to drain deep workings of many of the mines and thus uncover rich lead and zinc veins now accessible only by extensive pumping, if the pumps were available, which they aren't. Long John Austin, in charge for Stiers, has met a good deal of tunneling grief in the first 2,100 ft. but driving a by-pass around a stretch that produced three bad blow-ins in two weeks has solved some of his troubles.

Railroad modernization

East Portal, Colo.—A trip over the D.&S.L. (Moffat) Ry. on a light motor car from Denver to the Moffat tunnel reveals a lot of construction work along the 25-mile stretch through South Boulder Canyon. On this section of the line (all single track, which follows the twisting canyon wall up a 2 percent grade through 30 tunnels) new sidings are being built and old sidings are being extended to accommodate the Centralized Traffic Control that is being installed from Denver to Bond, over that part of the Moffat Route jointly used by the D.&R.G.W. as part of its Salt Lake short line. Placing two tracks in spots where the existing single track literally hangs on the side of the mountain is a tough job, but it's being done with heavy cuts and high fills.

Scared by possible repetition of last year's fire in a timbered tunnel, which blocked the road for 72 days, Moffat engineers are rushing their long-term program of replacing all timbered tunnel sections with concrete. It is slow work, being done under heavy mountain traffic, but progress is being made. Reballasting, replacing ties and installations of new steel are also going on in the canyon section.

Five-year water program

Denver, Colo.—Here, the Board of Water Commissioners is ready to start at the first postwar opportunity and without any federal aid, a five-year water supply expansion at the rate of nearly a million dollars annually, to be paid for out of current revenues and accumulated surplus. The street department also has its postwar plans well along. In the meantime, it is trying to keep some the asphalt-surfaced downtown str from disintegrating too far by prim with hot oil and spreading a coat of s dust and chips over the oil. While chips soon disappear, the cracks in old pavement are effectively sealed

Big tunnel lining job

Estes Park, Colo.—Headings on Bureau of Reclamation's 13-mi. tr mountain diversion tunnel under Continental Divide between Grand L and Estes Park, met June 10, ⅛ in. line and ¾ in. off grade. Both c tractors, Stiers Bros. on the west S. S. Magoffin on the east end, now getting ready to line the bore 9 ft. 9 in. inside diameter, each st ing at the center and working tow their respective portals. Forms, mix and concrete pumps are now roll onto the job, and aggregate storage piling up in the Big Thompson R flats below Estes Park and along Colorado River below Grand Lake H. W. R.

• • •

California can operate Central Valley Project

That state operation of Californ Central Valley Project is possible un both federal and state laws was revea to the California Water Project Auth ity recently by State Engineer Edw Hyatt, delegated to study the feasibil of state control (*ENR* Aug. 17 '44, p. 200) following charges that c struction of the CVP has been neglect and delayed.

The Department of the Interior authority to turn over operation to state which has the power to oper and maintain the vast project, Hyatt ported. Actual transfer of owners could be effected only through an of Congress, however.

Hyatt noted in his report that st negotiations for repayment of the c of the project had been turned down a previous reclamation commissioner the ground that the state autho lacked powers of taxation as requi by federal reclamation law. Indir power to tax can be claimed by the thority, however, Hyatt declared, si it can force local districts, which ev ally would receive CVP power and ter, to levy taxes.

While agreeing it would not be pr ticable to formulate any repayment c tract until actual cost of the project, which $160,000,000 already has b spent, is determined, the report held penditures allocated to flood con and navigation should remain a fed charge.

Construction supplies still needed for war

(*Continued from page* 1)

e types of materials which would inue to be controlled, lumber is one gether with chemicals and textiles; ite the lumber shortage, however, e is said to be ample supplies of y structural lumber even now. All rols will be withdrawn on metals; t least the bridge engineer, for one, once again have a free hand in ging, so far as that commodity is cerned.

the matter of equipment, it remains be seen what controls WPB will re-. Orders still in effect are L-53 ch regulates track type tractors; 3B, tractor parts; and L-192, miscel-eous. Recently revoked were L-53A ch concerned small-sized tractors; 6, used equipment; and L-217 which ricted size and models which could manufactured.

WPB officials see the situation, gh tractors, cranes, and shovels will inue tight, some more than at pres- will be available for civilian use. r items of which they are under-d to anticipate a continued short ply are road rollers, motor graders crushing plants.

s to how long the materials and ipment situation may delay civilian struction, the Facilities Bureau of WPB, of which John McTigue is director, declines to speculate. Should L-41 be revoked, construction would be on its own, free to go ahead with whatever building it could find materials, equipment, and labor to construct. For WPB has emphasized that it will not issue any priorities to give one industry an advantage over any other.

Most recent change in L-41 occurred Sept. 28 when the board lifted control over interior alterations connected with installation or relocation of machinery.

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New 73-mi. oil pipeline for Los Angeles area

Construction of 73 miles of pipeline at a cost of $1,911,462 to help carry crude oil from U. S. Naval reserves in Elk Hills to southern California refineries has been approved by the Los Angeles area Production Urgency Committee and construction will begin immediately, according to Louis Dreves, chairman.

Recommended by the Petroleum Administration for War, the line will be built in several segments, ranging in diameter from six to ten inches, and will join existing lines of the Union Oil Co., General Petroleum and Texas companies with wells drilled by the Standard Oil Co.

Two meetings postponed

The Executive Committee of the Highway Research Board has announced that owing to the exigencies of wartime it has been decided to postpone the twenty-fourth annual meeting of the board which had been scheduled to be held Nov. 22-25 at the Netherland Plaza Hotel in Cincinnati, Ohio.

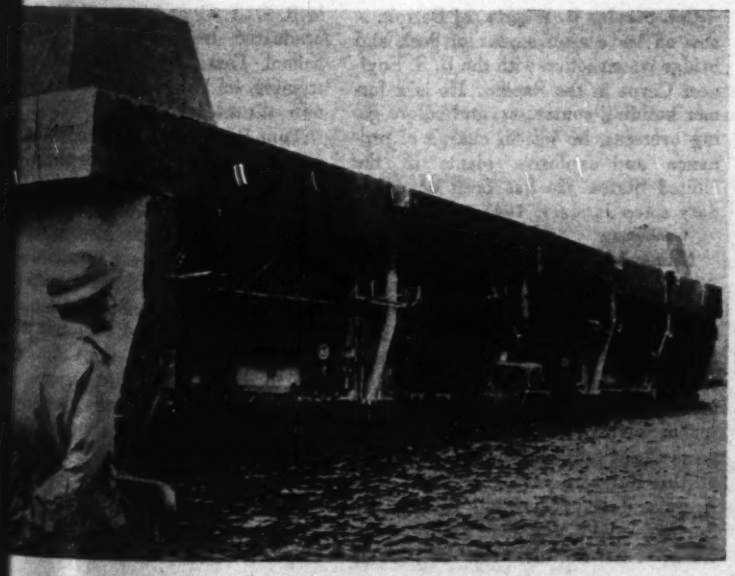
According to R. W. Crum, director of the board, it is hoped that conditions may improve so that the meeting can be held early in 1945. It is expected, in any case, that the papers and reports will be published in the annual volume of the proceedings of the Highway Research Board.

The meeting of the Missouri Valley section of the American Waterworks Association, scheduled for Kansas City, Mo., Oct 23-24, has also been cancelled. The executive committee of the section, however, says that it "does not relinquish its right to order the subsequent holding of a Section Meeting this year in Kansas City should present conditions, which now make the cancellation of the scheduled meeting advisable, change materially. The emergency period following the cessation of European hostilities may present factors calling for the utmost activity in water works planning, rehabilitation, and construction. Under such conditions the holding of a Section Meeting might be most advisable."

Brest U-boat pens not bombproof despite 12-ft. roof slab

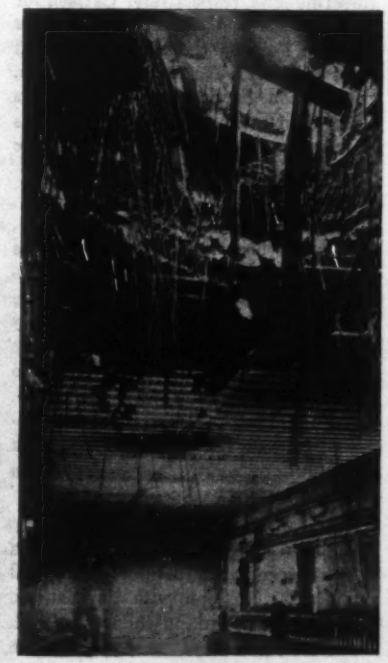
lthough Allied bombing apparently failed ut the German submarine pens at Brest, ce, out of commission, in at least three nces the 12 ft. concrete roof slabs were ed by direct hits. One of the pictures below shows the entrance to a battery of five pens, while the other is an interior view of the hole left by a delayed-action armor piercing bomb, of the same type used to cause tidal waves in harbors and thereby wreck shipping.

h Combine photo



Not only reinforcing steel but camouflage materials make up the debris in the hole.

Acme photo



MEN AND JOBS

Col. Howard H. Reed of the Office of Chief Engineer, European Theater of Operations, has been awarded the Legion of Merit for his services in the organization of supply facilities in Africa and the Middle East. The award was presented to Colonel Reed by Maj. Gen. C. R. Moore, Chief Engineer of the European Theater, in a brief ceremony at U. S. Army headquarters in Paris. Colonel Reed was cited for his services in consolidating all supply and service activities of the Air Transport Command operating in Africa and the Middle East.

Colonel Reed was graduated from the U. S. Military Academy at West Point in 1931.

Don C. Weeks, former head of the Civilian War Service work in the state of Michigan, has been appointed by the Michigan State Planning Commission as its director. **A. N. Languis**, director of the buildings and construction division of the State Administrative Board, who has been acting as director of the planning commission since the death of R. V. Gay last December, will continue to supervise the public works planning of the commission.

Henry A. Carlson and **William T. Utter** have been added to the staff of the water resources division of the U. S. Geological Survey office at Asheville, N. C., as junior engineer and senior engineering aide, respectively. Carlson for three years served as structural designer with the Panama Canal Authority and Utter formerly was principal draftsman, Fortification Section, Army Engineers office, Charleston, S. C. **W. R. Eaton** is the engineer in charge of the Asheville office.

Maj. William W. Drummey, Boston, Mass., has been named Massachusetts director of the Federal Housing Administration to succeed John F. Malley, resigned. Major Drummey, formerly supervisor of the Massachusetts Public Works Reserve, resigned in 1942 to accept a commission with the U. S. Army Engineers Corps. He was released from service after completing an important engineering assignment at an overseas station.

William G. Waldron left the United States recently to assume a general engineering position with the Bahrein Petroleum Co., Ltd., in connection with the construction of new high-octane gasoline refineries on Bahrein Island in the Persian Gulf. This is Mr. Waldron's second trip to the Middle East since the war began, his first being as an employee of Johnson, Drake & Piper, New York City, on their U. S. war construction contracts in Eritrea and Palestine. Returning from this job, he spent some time in French Guiana as a civilian employee of the Army Engineers, and more recently has been in Australia and the South Pacific as a civilian engineer with the Transportation Corps of the Army.

Maj. G. F. Steele has been assigned as post engineer in charge of construction for the Army Ground and Service Forces Redistribution Station at Asheville, N. C. A civil engineer for 26 years, Major Steele entered the Army in 1942 after serving for 16 years with the city construction department at Atlanta, Ga.

A. W. Shattuck, city engineer of Weyburn, Sask., has enlisted in the Royal Canadian Air Force and been replaced by **A. J. Cameron**.

Kenneth M. Adelstein, construction engineer of the Federal Works Agency, who has been assigned to the Hampton Roads area in recent months, has been transferred to the Reconstruction Finance Corporation as supervising engineer at Washington.

W. L. Cassels, civil engineer of Ottawa, Ont., has been named engineer of Rockcliffe, Ont., succeeding **Capt. T. C. Phillips**, resigned.

Col. Stanley B. Wiggin, of Detroit, is now on leave after a year of dock and bridge construction with the U. S. Engineer Corps in the Pacific. He is a former building contractor, and before going overseas, he was in charge of ordnance and explosive plants in the United States. He has been on active duty since January, 1941.

Leonard N. White of Dickinson-White, Little Rock, Ark., president of the Arkansas Society of Professional Engineers, has been named engineer for the Pulaski County Planning Board, succeeding the late Virgil B. Buckley. Mr. White was recently retired as major in the United States Army Engineers Corps following two years' service at the Newport, Ark. Air Field, the Army and Navy Hospital Annex, Hot Springs, Ark., Adams Field, Little Rock; Fort Belvoir, Va., and Camp Claiborne, La. and the Engineers S... ply Depot, Granite City, Ill.

Lieut. Bert Moskowitz of the U. ... Engineer Corps has been visiting ... Springfield, Ill. before leaving for F... Belvoir, Va., where he will be with ... Engineering Pool. He has been w... the Persian Gulf Command. Before j... ing the army in 1942, Lieut. Mosko... had spent ten years with the Illi... Division of Highways.

Hiram S. Lemmond, who prior ... entering the service in August, 19... was a civil and construction engin... for the Duke Power Co. at Charlo... N. C., has been promoted to captain ... Patterson Field, Ohio, where he is ... assistant in the engineering bra... of the construction utilities section ... the Headquarters Air Service Comma...

A. L. Connell, city engineer of De... son, Tex., has resigned to become ... member of the engineering departm... of the Missouri-Kansas-Texas R. R. ... Dallas.

Former Illinois highway departm... men now in the armed forces or ot... work include the following:

Percy Michener has been promo... to colonel, and has left Camp Cor... Johnson in Florida for a point of ... barkation. Before joining the E... neer Port Construction and Rep... Group in 1942, Colonel Michener ser... as assistant engineer in the bridge ... partment, where he had worked for ... years.

Paul Minnicar recently has b... made a lieutenant colonel. Joining ... Illinois highway department in 1928, ... served as assistant engineer in ... bridge department until Dec. 1, 19... when he left to be assistant profe... in R. O. T. C. at Ithaca, N. Y. He ... graduated from Command and S... School, Fort Leavenworth, had spe... training in Washington, D. C., and ... now abroad.

Tom Broderick, after more than ... years with the bridge department ... the Peoria and Springfield district ... fices, left his position as assistant e... neer for a similar position in the N... Mexico State Highway Commission.

Having worked for many years w... the bridge office in Springfield, as ... sistant engineer, **Bud Schnitzer** is n... in New Orleans with the C.A.A., h... ing to design and build airports.

Capt. Reginald Berry, formerly ... sistant engineer in the Springfield ... trict office, now with the Engi... Corps, has been transferred from B... Creek to Oscoda, Mich., where ... duties will be the maintenance of ... airports, three located on Lake H...

MEETINGS

National

...ICAN WELDING SOCIETY, 25th annual ...ting, Hotel Cleveland, Cleveland, Ohio, ... 16-19.

...ETY FOR EXPERIMENTAL STRESS ANALY... fall meeting, Carter Hotel, Cleveland, ..., Oct. 17-20.

...INEERS' COUNCIL FOR PROFESSIONAL ...LOPMENT, 12th annual meeting, 29 ... 39th St., New York, N. Y., Oct. 20-21.

...ICAN MUNICIPAL ASSOCIATION, annual ...ference, Hotel Blackstone, Chicago, Ill., ... 25-27.

...ONAL COUNCIL OF STATE BOARDS OF ...NEERING EXAMINERS, annual meeting, ... Lafayette, Lexington, Ky., Oct. 30-31.

...ICAN INSTITUTE OF STEEL CONSTRUC... annual meeting, Atlantic City, N. J. ... 31-Nov. 2.

...ADIAN INSTITUTE OF SEWAGE AND SANI... annual convention, Royal York ..., Toronto, Ont., Canada, Nov. 2-3.

... PRODUCERS' COUNCIL, INC., 21st semi-... meeting, Hotel Roosevelt, New York, ..., Nov. 27-29.

...ICAN ASSOCIATION OF STATE HIGHWAY ...IALS, annual meeting, Netherland ... Hotel, Cincinnati, Ohio, Nov. 27-30.

...FERENCE ON INDUSTRIAL WASTE UTILIZA..., sponsored by the Sanitary Engineer-... Department, School of Civil Engineer-...

Western contractors worry about equipment

(*Continued from page* 1)

...ortion of the state's hampered con-...ction program to "the difficulties in ... procurement of new maintenance ...pment and repair parts." (ENR ... 24, vol. p. 204).

...hn W. Kelly, executive director of ...gon's postwar development commis-..., declared even more recently that ... the "inability of Oregon's 35 coun-... to obtain road building equipment, ...ite over $1,000,000 set aside for its ...hase, will prevent the launching in ...gon of a huge postwar highway im-...ement program."

...r. Kelly said that the counties of ...tate are marking time on construc-... programs in the hopes that it will ...ossible to obtain equipment from ...rnment "surplus supplies at bar-... prices."

...uipment specifically needed by ...gon counties includes trucks, rock ...ers, motor graders, power shovels, ...rs, oil distributors, bulldozers, road ...rs, tractors, paving plants, power ...s, scrapers, snow plows, piledrivers, ... tools and repair parts.

ing and Engineering Mechanics, Purdue University, and other organizations of the state, Purdue University, Lafayette, Ind., Nov. 29-30.

Regional and Local

SOUTHWEST SECTION, AMERICAN WATER WORKS ASSOCIATION, Stephen F. Austin and Driskill Hotels, Austin, Texas, Oct. 17-19.

CALIFORNIA SECTION, AMERICAN WATER WORKS ASSOCIATION, annual meeting, Hotel Biltmore, Los Angeles, Calif., Oct. 24-26.

WEST VIRGINIA SECTION, AMERICAN WATER WORKS ASSOCIATION, annual meeting, Hotel Chancellor, Parkersburg, W. Va., Oct. 26-27.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA, 5th annual water conference, William Penn Hotel, Pittsburgh, Pa., Oct. 30-31.

CAROLINA BRANCH, ASSOCIATED GENERAL CONTRACTORS OF AMERICA, 24th annual meeting, Carolina Hotel, Southern Pines, N. C., Oct. 30-31.

NEW JERSEY SECTION, AMERICAN WATER WORKS ASSOCIATION, annual meeting, Hotel Madison, Atlantic City, N. J., Nov. 2-4.

FOUR-STATES SECTION, AMERICAN WATER WORKS ASSOCIATION, wartime conference jointly with the PENNSYLVANIA WATER WORKS OPERATORS' ASSOCIATION, Benjamin Franklin Hotel, Philadelphia, Pa., Nov. 8-10.

ILLINOIS WATER PLANT OPERATORS' ASSOCIATION, annual convention, Leland Hotel, Springfield, Ill., Nov. 9.

VIRGINIA SECTION, AMERICAN WATER WORKS ASSOCIATION, John Marshall Hotel, Richmond, Va., Nov. 14-15.

SOUTH DAKOTA WATER AND SEWAGE WORKS CONFERENCE, annual meeting, Lincoln Hotel, Watertown, S. D., Nov. 14-15.

FLORIDA SECTION, AMERICAN WATER WORKS ASSOCIATION, Suwannee Hotel, St. Petersburg, Fla., Nov. 16-18.

ILLINOIS SEWAGE OPERATORS' ASSOCIATION, annual conference, Leland Hotel, Springfield, Ill., Nov. 28-29.

JOBS OF THE WEEK

HOUSING, etc. Shumaker, Ark.

Bureau of Yards & Docks, Navy Department, Washington, D. C., awarded a contract for the construction of protection facilities, housing and utilities, to Winston Brothers Co., C. F. Haglin & Sons, Inc., Missouri Valley Bridge & Iron Co. and Sollitt Construction Co., Inc., Minneapolis, Minn., at $28,118,700. Fraser-Brace Engineering Co., Inc., New York, are the engineers and architects. National Fireworks Co., Haverhill, Mass., is the operator.

AIRPORT, East Boston, Mass.

Gahagan Construction Corp., New York, N. Y., has been awarded a contract for placing 10,000,000 cu. yd. hydraulic fill for embankments by Commonwealth of Massachusetts, Public Works, Boston, Mass. at $2,170,000.

PLANT, Brookfield, Ill.

Ragner Benson, Chicago, Ill., will build a manufacturing plant, including service building, machine shop, cafeteria and warehouse for Electro Motive Corp., Brookfield. The estimated cost is $2,500,000. Argonaut Realty Corp., Detroit, Mich., is the architect.

HOSPITAL, Ogden, Utah

Jacobsen Construction Co., Salt Lake City, has been awarded a contract for a hospital by Sisters of St. Benedict, St. Joseph, Minn., at $726,370. Federal Works Agency will finance; nurses home to Edward L. Eckman, Salt Lake City at $219,992. John K. Monroe, Denver, Colo. is the architect.

HEATING PLANT, Philadelphia, Pa.

Bureau of Yards & Docks, Navy Department, Washington, D. C. awarded contract for heating plant and installing equipment at Naval Air Material Station, NOY 11036 to Day & Zimmerman, Inc., Phila. Estimated cost $1,000,000.

FLOUR MILL, Montreal, Que.

E. G. M. Cape & Co., Ltd., Montreal, Que., has been awarded a contract for superstructure to complete Royal Mills, including dump house, head house, east and west elevators, and concrete bridge over Mill St., for Ogilvie Flour Mill Co., Ltd., Montreal, Que. Estimated cost $1,000,000.

RUNWAY AND TAXI STRIP, Patuxent, Md.

Bureau of Yards & Docks, Navy Department, Washington, D. C. received lowest bid for constructing additional taxi strip and runway at Naval Air Station, NOY 10621 from C. J. Langenfelder & Son, Baltimore, Md., $1,031,647.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 15.

OBITUARY

Donald Witten, 54, senior bridge engineer with District Ten of the Public Roads Administration in Washington, D. C., died Oct. 4. A native of Kansas City, Mo., Mr. Witten received his engineering training at the University of Missouri. He spent several years with the consulting engineering firm of Waddell and Harrington of Kansas City, and later became a partner in the consulting engineering firm of Wood and Witten at Tulsa, Okla.

Mr. Witten joined the staff of the Public Roads Administration in 1935, when he was assigned to the Office of District Six in Fort Worth, Tex. In 1938 he was transferred to District Ten, and for the past several years had been in charge of the bridge division of that district, with supervision over the building of federal aid bridges in Delaware, Maryland, Ohio, Pennsylvania, and the District of Columbia.

Bernard J. S. Cahill, 78, who designed original plans for San Francisco's civic center and invented a system of cartography known as the Octathedral System of Projection, died Oct. 4 in Oakland, Calif.

Educated in England, Mr. Cahill came to this country in 1888. His map plan was perfected in 1935.

W. B. Russel, 76, died Sept. 27 at Elk Lake, Ont. A graduate of Toronto University, he joined the Newfoundland Railways in 1891 and latterly was with the Temiskaming & Northern Ontario Railway as chief engineer. Among the outstanding engineering works upon which Mr. Russel was engaged were the Trent Valley Waterway, the Canadian Northern Railway and the Welland Canal.

Sydney E. Junkins, 77, engineer, and from 1898 to 1914 vice president of Westinghouse, Church, Kerr & Co., New York, died at Hanover, N. H., on Oct. 3. He took part in the design and construction of railway terminals and shops, power plants and electrification systems, including work on the Pennsylvania Railway Terminal in New York and the electrification of 108 miles of the Long Island Railroad. As consulting engineer for the Canadian Pacific, he designed and constructed bridges, terminals, and piers, and for five years was in charge of lining the Connaught Tunnel. He was also consultant for the Department of Public Works of Canada and for British Columbia. He retired in 1932 and had since lived near the campus of Dartmouth College, from which he was graduated in 1887.

Capt. Charles A. Wallace, Columbia, S. C., who joined the Army with the Corps of Engineers in November, 1942, died recently from wounds received in action in the Pacific. He was owner and manager of the Wallace Concrete Pipe Co.

Frank Daugherty Paullus, 68, contractor and engineer of Dallas, Tex., died there Sept. 28. He directed the building of the Morton Salt Works plant at Grand Saline, Tex.

Pleasants P. Pilcher, formerly of the city engineering staff of Richmond, Va., died Sept. 30 in Atlanta, Ga., where he was engaged in FHA work. He had previously been city manager of Winchester, Va., and Port Arthur, Tex.

Fred Schwoon, building contractor, died in Birmingham, Ala., Sept. 17 Before his retirement he was connected with the L. E. Ford Construction Co. as superintendent.

WEEKLY CONSTRUCTION SUMMARY

CONTRACTS

Continental U. S. Only
(Thousands of Dollars)

	Week Ending Oct. 14 1943	Oct. 5 1944	Oct. 12 1944
Federal	$38,203	$16,380	$45,473
State & Municipal	4,539	6,824	6,806
Total public	$42,742	$23,204	$52,279
Total private	30,113	3,326	5,400
TOTAL	$72,855	$26,530	$57,679
Cumulative 1944	(41 weeks)		$1,463,770
1943	(41 weeks)		$2,599,012

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1943 41 Weeks	1944 41 Weeks
NON-FEDERAL	$287,728	$354,550
Corp. Securities	18,228	96,845
State & Mun.	103,822	116,765
RFC Loans	14,545	57,940
FPHA Loans	3,133	
REA Loans	20,000	20,000
Fed.-Aid Hwy.	128,000	63,000
FEDERAL	$2,753,838	$1,263,800
TOTAL CAPITAL	$3,041,566	$1,618,350

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost	Oct. '44	301.06	144.72
Building Cost	Oct. '44	236.00	127.57
Volume	Sept. '44	85.	37.

J. Craig McManus, for 25 years associate of Cameron, Joyce & Co., general contractors of Keokuk, Ia., died Sept. 15 at Herman, Mo.

James B. True, 57, former superintendent of the Wyoming State Highway Department, died Sept. 30 in Tacoma, Wash. Recently medically discharged from the Army, Mr. True has held the rank of major in the Engineer Corps. Besides an assignment in England as military construction work in Alaska, he had headed construction of McChord Field in Washington. A graduate of the Universities of Denver and Wisconsin, Mr. True served with engineering firms in Colorado, Kansas and Canada before becoming Wyoming assistant state engineer in 1914 and state engineer in 1919. Named head of the highway department in 1934, Mr. True held that position until his retirement in 1937.

W. C. Brennan, founder and president of the Brennan Paving Co. and the W. C. Brennan Construction Co. Ltd., Hamilton. Ont., died recently. An employee of the city works department of Hamilton for 24 years, Mr. Brennan resigned to found his own business in 1915. It became one of the largest road building concerns in Canada.

Howard Chapin Ives, 66, retired civil and construction engineer who formerly taught at Worcester Polytechnic Institute and the University of Pennsylvania, died Oct. 6 at Waterbury, Conn. After his graduation as a civil engineer from Yale University in 1900, Mr. Ives began his teaching career at Worcester Polytechnic Institute. With the exception of a three-year period at the University of Pennsylvania, he remained on the Worcester staff until 1925. In recent years he lived in California and was at one time city engineer of Los Angeles.

John Allen Hart, 46, assistant district Texas state highway engineer at Waco, Texas, died at Waco Sept. 28.

Mr. Hart had served as a civil engineer with the Texas State Highway Department since 1926, during which time, before going to Waco, he was assistant state resident engineer at Stephens County,. He also served as director of the central Texas division of the Society of Professional Engineers.

Albert M. Brosius, 75, consulting engineer died at White Plains, N. Y., Oct. 9. He started as a draftsman with the Ohio & Northwestern R. R. in 1[illegible]. From 1902 to 1905 he was on subway construction in New York, and later was an engineer with the Westchester County Sanitation Commission.

CONSTRUCTION REPORTS

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ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*

(Daily service also available—Write for details)

WATER SUPPLY

POSED WORK

Calif., San Diego — City, Civic Center Bldg., imprv. water sys., incl. Thorn St. ... main, Benita main and 8 m.g. reser- ... $675,000.

...d., New Castle—Mayor and Council of ... Castle acting through Bd. Water & ... Comrs., City Hall, drilling test wells, ...loping gravel packed well, install. ...est. 2,650 ft. 1 in. main, constructing, ... pump house and 1 million gal. per ...rapid sand filtration plant with connec- ...to distr. sys., incl. appurtenances and ...isition of land. Del. 7-112-N. $87,000. ...

..., Colp—Village, water distr. sys., Ill. ...-N. $70,088. **FWA.**

..., Lunenburg—Town, G. Rowley, chn. Water Comrs., Lunenburg, water supply ... storage and distr. Over $15,000. $5,000 ...propriated for survey and Pitometer tests.

..., Marlboro—Dpt. Institutions & ...cies, State Office Bldg., Trenton, new ...soon water treatment plant addn., at ... Hospital. Bids 9/6 rejected. CD 9/12 ...NR 9/14, under LB.

..., Nanty Glo—Boro, J. Gustin, secy., fil- ...ion plant. $50,000. Morris Knowles, Inc., ... Bldg., Pittsburgh, engr.

..., Phila.—U. S. Eng., 6 and Walnut ... Phila., water line sys., at Hog Island.

..., Waco—Geo. J. Rowan, water supt., ...n preliminary plans WW imprvs., incl. ...r lines and pump. equip. $300,000. J. J. ...y, Insurance Bldg., Fort Worth, engrs.

...laska, Fairbanks—City, City Hall, water ...nd sewerage sys. $1,750,000. Seeking ... funds. Black & Veatch, 4706 Bway., ...as City, Mo., engrs.

..., Dutton—Municipality, WW sys. ...00. C. R. Hagey, Fort Erie, engr.

..., Paisley—Municipality, E. D. Elwes, ... P. O. Box 236, Paisley, WW sys. ...00. G. G. Reid, 7 Edmund Ave., To- ..., engr. CD 10/3—ENR 10/5.

..., Levis—Municipality, c/o L. Lemieux, ... WW sys. St. Therese St. $15,000. M. ...ard, St. Hilaire, engr.

..., Riviere du Loup—Municipality, c/o ...ebel, clk., pump. station, water sys. ...vs. $30,000. M. Gilbert, 5 Boise Joli ... Quebec City, engr.

..., St. Jean des Piles—P. Cadorette, ...r, water sys. imprvs., fire protection ... $25,000.

..., Sillery—Municipality, J. R. Pagnet, ...r, City Hall, WW imprvs., increasing ...nt cap. of filtration plant from 500,000 ... 1,000,000 gal. per day, constr. intake ... River St. Lawrence and reservoir, pipe- ...to reservoir, etc. $225,000. M. Gilbert, ...is Joli St., Quebec City, engr.

..., Kindersley—Municipality, c/o L. P. ...ald, clk., 1 mi. watermain replacements. ...00. A. W. Wells, Town Hall, engr. and ...ch.

... ASKED

Bids Asked October 19

..., Charleston—T. Walton, city clk., ...leston, impounding reservoir, 3 new ... dams by Embaras River, near S.A. ... 130, 2 mi. southeast of here. $165,000. ...t-Roche, Hillsboro, engrs. (Correction—...date and classification.) CD 9/29—ENR ...under Earthwork, etc.

Bids Asked October 25

..., Columbus—Bd. Comrs. Muscogee ... Columbus, water exten. **FWA.** Wiede- ... & Singleton, Candler Bldg., engrs. ...0/9.

Bids Asked

..., Perryville—Southern Natural Gas Co., ...e Bldg., Birmingham, Ala., water cool- ...rs. $40,000. CD 9/15—ENR 9/21.

..., Vernon—W. T. Waggoner Estate, c/o ...goner Bldg., Fort Worth, 20 mi. 8 in. ...ater pipeline carrier. $65,000.

... BIDDERS

..., Burbank—City, Sept. 27, installing ... lin. ft. 12- to 24-in. c.i. mains, Spec. ...Calif. 4-504-F, from E. R. Green, 3001 Coolidge Ave., Los Angeles, **$68,685.** H. I. Stites, City Hall, mgr. CD 8/16—ENR 8/24.

†Tex., Big Spring—City, B. J. McDaniel, mgr., City Hall, Oct. 4, chlorinator station. Contr. 5, Tex. 41-672-N, from Lippert Brothers, 2036 N.W. 23 St., Oklahoma City, Okla., **$27,176. FWA.** CD 9/22—ENR 9/28.

†Tex., Weslaco—City, c/o V. C. Thompson, secy., City Hall, Oct. 4, filter plant, equip., piping. Contr. 2, Tex. 41-688-N, from Mitchell-Darby, Pharr, **$42,322. FWA.** CD 9/21.

Wis., Chilton—City, O. A. Horst, clk., Sept. 26, pumphouses reservoirs and remodeling water pump. sta. from F. Winninghoff, West Bend, **$74,960.** CD 9/16—ENR 9/21.

CONTRACTS AWARDED

†Calif., San Diego—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., water softener sys., Naval Air Station, NOY 10272, to Permutit Co., 330 W. 42 St., New York, N. Y., **$16,340.** CD 7/27.

Location of ENR Correspondents

Symbols and Abbreviations Include:

* Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings
Unclassified

Stages Reported

PROPOSED: (except Streets & Roads): BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

†Miss., Aberdeen—U. S. Eng., Grant St., west of Westwood St., Mobile, Ala., 14,875 ft. c.i. watermains, 5,566 ft. gas pipe and 8,585 ft. sewers at Gulf Ordnance Plant, to Volz Constr. Co., Ripley, Tenn., **$73,140.**

†Okla., McAlester—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., modification, exten. water distr. sys., serving 40 mm, large caliber, 5 in. and small caliber loading plants, Naval Ammunition Depot, NOY 10709, to Ransdell Constr. Co., 1014 Liberty Bank Bldg., Dallas 1, Tex., **$82,750.**

Tenn., Lewisburg—City, addnl. water supply facilities, incl. filtration plant, to W. L. Hailey Co., Cotton States Bldg., Nashville, **$336,734.** CD 9/27—ENR 10/5, under LB.

†Va., Yorktown—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. water supply, Naval Mine Depot, NOY 10524, to Stanley Mundy & Co., Woodbridge, N. J., **$95,365.**

Wash., Grandview—City, City Hall, furnishing 8,000 ft. 6- to 14-in. c.i. pipe, fittings for water sys., to Hugh Purcell Co., Colman Bldg., Seattle, Zone 4, **$36,665.** G. F. Douglas, city engr. Bids 9/7. CD 8/28—ENR 8/31.

Ont., Camp Borden—Dpt. Natl. Defense (Army), Ottawa, water sys. exten. to Armstrong Brothers Const. Co., Ltd., 19 Main St. N., Brampton, **$30,000.**

Ont., Ottawa—Dpt. P. Wks., Ottawa, pump house at Experimental Farm, to A. I. Garvock, Regent Theatre, Sparks St., **$15,521.** C. D. Southerland, c/o owner, archt.

Que., Pointe Claire—Municipality, exten. water pipes, sewers, and construct. macadam road on Bayview Ave., to Lake Constr. Co., Ltd., 137 Carrier St., **$30,000.**

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., Oceanside — City, sewage disposal plant. $115,000. Applied for FWA funds. Leeds, Hill, Barnard & Jewett, 601 W. 5 St., Los Angeles, engrs.

†Fla., Gainesville—City, imprvs., exten. sewerage sys., consisting of install. approx. 7,875 ft. 8 to 16 in. sewers, manholes and appurtenances, Fla. 8-326-N. $34,000. **FWA.**

Mass., Waltham—City, P. Wks., Dpt., City Hall, preliminary plans, incinerator. Over $25,000. P. F. Howard and T. Worcester, 89 Broad St., Boston, engrs.

†Tex., Texas City—E. A. Johnson, mayor, City Hall, sanitary sewer sys. imprvs., vit. clay and c.i. lines, lift station, pump. unit, etc., Tex. 41-696. **FWA.** J. J. Rady, Insurance Bldg., Fort Worth, engr. CD 8/10—ENR 8/17.

★**†Va., Portsmouth**—City Manager, City Hall, sewage disposal plant. $1,167,000. **FWA.**

Wash., Camas—Mayor H. J. Woodworth, City Hall. $70,000 bond election Nov. 7, storm sewer and laterals, $70,000.

Ont., Barrie—Municipality, c/o A. W. Smith, clk., Barrie, incinerator. $50,000.

Que., Gatineau—International Fibre Board, Ltd., Gatineau, 3,350 ft. sewers, $28,000.

Ont., Goderich—Town, sewage disposal plant. $75,000. Dorr Co., Inc., 80 Richmond St., Toronto, engr.

Ont., Port Arthur—City, W. V. McComber, clk., sewerage sys., $50,000; 2 sewer tr. plants, $50,000 each.

Que., Luceville—Municipality, c/o L. P. St. Laurent, mayor, sewerage sys. exten. $30,000.

Que., St. Jean des Piles—Municipality, P. Cadorette, mayor, sewerage sys. $25,000.

Que., St. Zenon—Municipality, A. Champagne, mayor, St. Zenon, sewerage sys. $25,000.

BIDS ASKED

Bids Asked October 18

N. Y., New York—President Manhattan Boro, Municipal Bldg., Zone 7, sewer in W. 225 St. from point about 400 ft. east of Bway. to Boro line, etc.

Bids Asked October 25

Calif., Los Angeles—City Bd. P. Wks., City Hall, 29,000 ft. vitr. clay sanitary sewers and 10,591 ft. house connections in Noble Ave.

SEWERS, etc. (Bids Asked, Cont'd.)

and Moorpark St. Sewer Dist. $121,887. L. Aldrich. City Hall, engr.

N. C., Wilmington—City, refuse incinerator. Bids 10/2 rejected. Plans deposit $5. J. A. Loughlin, City Hall, city engr. CD 9/26.

Bids Asked October 21

Mass., Springfield—At office B. H. Grout, supt. Dpt. Streets & Engineering, Administration Bldg., Liberty St. sewage pump. station. Plans deposit $5; adv. ENR 10/12. CD 7/5—ENR 7/13.

LOW BIDDERS

N. J., Hawthorne—Boro of Hawthorne, Boro Hall, vitr. tile sewer connection, from Spiniello Constr. Co., 437 Riverside Ave., Newark, **$44,877.**

†Tex., Kelly Field—U. S. Eng., Fort Sam Houston, Oct. 2, sewage disposal plant addn., from C. H. Harrison, P. O. Box 185, Waco, **$41,600.** CD 9/11—ENR 9/14.

Tex., Houston—City, c/o M. H. Westerman, secy., City Hall, Sept. 27, sanitary sewer main from proposed pump station near Pine Gully and Fairway to Long Drive and Chaffin in south section of Golfcrest and in north section of Golfcrest addn., together with submains and laterals from R. P. Farnsworth Co., Bankers Mortgage Bldg., **$142,275** and **$71,620;** 72 in. storm sewer in Kirby, Bellaire Blvd. to Brays Bayou, from Tellepsen Constr. Co., 3900 Clay Ave., **$146,357.** J. Dannenbaum, City Hall, engr.

†Va., Norfolk—City, Sept. 27, 4 furnace incinerator, Va. 44-355, from Nye Odorless Incinerator Co., Macon, Ga., **$214,300. FWA. (Correction**—Low bidders). CD 10/6, under LB.

Wis., Racine—City, H. A. Nelson, comr., Sept. 19, incinerator from Pittsburgh-Des Moines Steel Co., 38 S. Dearborn St., Chicago, Ill., **$33,400.** W. J. Chadwick, city engr.

Wis., Wauwatosa—Bd. P. Wks., Sept. 25, sanitary sewer, W. Meinecke Ave., from Werner Co., 9713 Harding Blvd., Zone 13, **$44,781.** CD 9/12—ENR 9/14.

CONTRACTS AWARDED

Calif., El Centro—City, City Hall, repairing, 1,250 ft. 27 in. vitr. clay outfall sanitary sewer, to J. S. Barrett, 1300 Coast Highway, Newport Beach, **$36,574.** Bids 10/5.

†Kan., Liberal—City, J. N. Evans, clk., sewers, Kan. 14-253, to Burt & Binford, 507 W. 2 St., Hutchinson, **$45,000. FWA.** Bids 9/29. CD 9/21—ENR 9/10.

Mich., Hazel Park—Lenore Armour, city clk., City Hall, 20,309 lin. ft. 12- to 18-in. sewer pipe, manholes, specials and connections, to Garraro Co., 70 E. Seven Mile Rd., Detroit, **$77,409.** Bids 9/25.

†Tex., Pear Ridge — City, S. S. Lynch, mayor, City Hall, sanitary sewerage sys., collection lines, lift stations and disposal plant, incl. Imhoff tank, aero-filter, final settling tank, sludge drying beds, outfall line, etc., Tex. 41-662-N. to Koller Constr. Co., De Ridder, **$74,775. FWA.** Bids 10/3. CD 9/21.

†Va., Quantico—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C. repairs, imprvs. sewage treatment plant, Marine Barracks, NOY 10456, to Chas. H. Tompkins Co., 907 16 St. N.W., Wash., 25, D. C.

Wis., Allouez—Fox River Sanitary Dist. No. 1, R 6, Green Bay, protection for interceptor sewer to Waterways Engrg. Co., Green Bay, **$28,000.** Foth, Boyd & Porath, Green Bay, engrs.

BRIDGES

PROPOSED WORK

Arkansas—J. H. Crain, chn. State Hy. Dpt., Little Rock, rejected bids Sept. 28, bridges at Higden, Cleburne Co., at Beaver, Carroll Co. and Eureka Springs, Benton Co. Will readvertise. CD 9/19—ENR 9/21.

Que., Almaville—Provincial Govt., Quebec City, reconstruct bridge on Three River's Hy. $30,000. Dpt. P. Wks., Desjardins, ch. engr.

Que., Grande Ligne—Province of Quebec, Quebec City, bridge. $100,000. O. Desjardins, Dpt. P. Wks., Quebec City, engr.

Que., Joliette—Canadian National Rys., H. A. Dixon, ch. engr., 360 McGill St., Montreal, subway under tracks at St. Mark St. $90,000.

Que., St. Rose—Provincial Govt., Quebec City, bridge over Rivere des Milles Isles, 1,600 ft. long. $325,000. O. Desjardins, Dpt. P. Wks., Quebec City, engr.

BIDS ASKED

Bids Asked October 20

Ill., Chester—City Clerk's Office, City Hall, reconstruct superstructure for main spans of hy. bridge across Mississippi River cast into river by tornado 7-29 and repair piers; Sverdrup & Parcel, Ry. Exchange Bldg., St. Louis, engrs. Plans deposit $20; adv. ENR 10/12.

Tennessee—State Dpt. Hys. & P. Wks., Nashville, 0.16 mi. bridge and approaches State Route 73, F.A.P. 450-I(1), Blount Co.

Bids Asked October 24

Washington—State Hy. Dpt., Olympia, 68 ft. rein.-con. slab bridge over Soos Creek, with approaches and 12x4 ft. rein.-con. box culvert 49½ ft. long at Jenkins Creek on Secondary State Hy. 5-2, King Co. Plans deposit $2. B. Bantz, state hy. dir.

LOW BIDDERS

†California—Pub. Roads Admin., 70 Phelan Bldg., San Francisco, 0.229 mi. bridges on access road, Proj. Calif. DA-RM-218(2), Unit 1, to Deschutes Lumber Co., Shasta Co., from Freethy-Kimball Co., 406 Montgomery St., San Francisco, **$62,770.** CD 9/26.

O., Cleveland—City, F. Foy, purch. agt., City Hall, Sept. 28, reconstructing Washington Park Bridge, from Domenic Nero Constr. Co., 12202 Superior Ave., **$28,980.** Est. $30,000. CD 7/5—ENR 7/13.

Pa., Pittsburgh—P. M. Roessing, dir. P. Wks., City County Bldg., Sept. 28, removing wood deck on approach spans and replacing with rein.-con., bridge, Smithfield St. from Sactis Constr. Co., 507 Marlow St., **$28,801.** CD 9/19—ENR 9/21.

†Alaska, Ketchikan — Public Roads Admin., Federal and Territorial Bldg., Juneau, Sept. 27, bridge, over Stedman Creek, from D. Nygren, Lloyd Bldg., Seattle, 1, Wash., **$79,851.** CD 9/12—ENR 9/14.

CONTRACTS AWARDED

Pa., Derry—Pennsylvania R. R., J. L. Gressitt, ch. engr., Broad St. Station Bldg., 1617 Pennsylvania Blvd., Phila., Zone 4, bridge substructure, rein.-con. excav., wood pile driving, concrete cribbing, to Latrobe Constr. Co., Latrobe.

Wis., Medford — Taylor Co., Medford. Alberts Bridge Co. Proj. 6504, Co. Hy. H, by own forces; steel work to Worden-Allen Co., N. 3 St. and Pt. Washington Rd. Milwaukee. Over **$25,000.** W. C. Miller, Medford, co. engr.

STREETS AND ROADS

BIDS ASKED

Bids Asked October 17

Iowa—State Hy. Comn., Ames, construction grading U.S. 6 east of Atalissa between Sects. 8 and 17, Moscow Twp., P-635, Muscatine Co.; maintenance resurfacing 6.5 mi. Iowa 10 from Orange City to U.S. 75. Proj. M-3336, Sioux Co.; maintenance grading Iowa 5½ mi. east of Cherokee, Proj. 3335, Cherokee Co.; maintenance culvert installation 60 in. concrete pipe on U.S. 30, 2.5 mi. west of Missouri Valley. Proj. M-4319, Harrison Co. F. W. White, engr.

Ohio—State Hy. Dpt., Columbus, asphaltic concrete resurfacing 1.763 mi. Sects. B and Dover of S.H. No. 409, Tuscarawas Co., **$23,750;** 2.434 mi. Sect. Cincinnati of S.H. 7, U.S. 50, Hamilton Co., **$38,600;** 7.289 mi. Sects. C-1, C-2 and P of S.H. 24, Knox Co., **$82,800;** installing roadway drainage 1.167 mi. Sects. K and A of S.H. 276, U.S. 20, Sandusky and Wood Counties, **$18,630;** grading, drainage structures, widening, asphaltic concrete widening 0.987 mi. Sect. Wilmington of S.H. 175, 248 and 254, Clinton Co., **$29,800;** constructing concrete slab bridge 0.047 mi. Sect. D of S.H. 941, Ashland Co., **$6,220.**

Bids Asked October 18

Louisiana—Dpt. Hys., Baton Rouge, bituminous surface treating 11.45 mi. Minden-Dorcheat Hy., State Route 185, S.P. 703-00-97, Webster Parish, plans deposit $1; shaping roadway, gravel base, bituminous surface treating, drainage structures, etc., 27.1 mi. Maneuver Area Rds., Group 2, S.P. 737-00-07, Vernon Parish. Plans deposit $1; rein.-con. box culverts, concrete paving 0.025 mi. New Iberia-Jeanerette Hy., S.P. 4-05-06, Fed. Aid Proj. SN-FAP 28 (2), Iberia Parish, Plans deposit $3.50. D. Y. Smith, dir. Hys.

La., Alexandria—H. T. Dulany, secy.-treas. City Council, City Hall, sidewalks, curbs, Houston St., west side of Mill St., resurfacing, repairing Lower Third St.

N. Y., New York—President, Bronx Boro, 851 Grand Concourse Zone 51, paving bricks on concrete, repaving Bathgate Ave. from Tremont Ave. to E. 178 St.; sheet asphalt on concrete, repaving Grant Ave. from E. 165 to E. 166 Sts.; E. 157 St. from Melrose to Park Aves., etc.

Bids Asked October 20

Illinois—Div. Hys., Springfield, gravel or crushed stone surface course paving 2.84 mi. Sect. 105 G, R.M.-F.A.S. Project 164(1) F.A.S. Route 825, Dist. 7, Jefferson Co. $50,000. Plans deposit $10. W. W. Pulk ch. hy. engr.

Kentucky—Dpt. Hys., Frankfort, concrete paving 0.37 mi. Boone County Airport-Erlanger Rd., S.P. 8-270, Boone Co.

Minn., Virginia—State Hy. Dpt. at District Office, Virginia, production of mineral aggregate to be placed in stockpiles, for Maintenance Div.; crush, screen, load and haul approx. 25,500 cu. yd. gravel. Over $25,000

Tennessee—State Dpt. Hys. & P. Wks., Nashville, grading, surfacing 1.861 mi. State Route 56, DA-RM 19 (1), Grundy Co.

Bids Asked About October 23 or 24

Pennsylvania—J. U. Shroyer, secy., State Hy. Dpt., Harrisburg, grading, draining 10 or 11 mi. Route 22, from Harper Tavern to Fredericksburg.

Bids Asked October 24

La., Pineville—R. C. Lawrence, mayor, concrete paving, necessary drainage appurtenances, Oakland and Tudor Sts., curbs, walks, curbs, gutters, Main St. Plans deposit $4. Bids 10/3 rejected. Pan-American Engineers, 912 5 St., Alexandria, engrs. CD 9/19—ENR 9/21.

★**Texas**—D. C. Greer, engr. State Hy. Comn., Austin, grading, concrete paving 2.141 mi. Hy. 289, Control 91-6-7, Dallas Co. $110,000; concrete pavement and select material shoulders 3.379 mi. Hy. 146, F.A.P. 820-C(1) and 839-E(1), Liberty and Chambers Counties, $150,000; repairing 94.72 mi. roads, DA WR 500 (1), Jasper, Newton and Sabine Counties, $160,000; grading, structures and roadbed treatment 6.16 mi. U. S. Hy. 77, SN F.A.P. 113 (7), Hill Co., $110,000; grading, structures, concrete pavement and flexible base shoulders 8.705 mi. U.S. Hy. 82, F.A.P. 480-A (2) and C (1), Bowie Co., $300,000.

Washington — State Hy. Dpt., Olympia, crushed stone surfacing, placing bituminous treatment 2.07 mi. Primary State Hy. 5, between Issaquah and High Point, King Co. Plans deposit $2. B. Bantz, state hy. dir.

Bids Asked October 25

New York—State Dpt. P. Wks., H. A. Cohen, dir. Bureau Contracts and Accounts, Albany, concrete paving, concrete base bridge 1.02 mi. hy Orange Co.; gravel surfacing 4.95 mi. hy. St. Lawrence Co. Plans deposit $5 each. C. H. Sells, supt. P. Wks., adv. ENR 10/12.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, concrete paving and repaving projects within city limits.

Bids Asked

Iowa—State Hy. Comn., Ames, received bids Oct. 3, imprv. 9 mi. M-3334, Lyon and Osceola Counties; rejected bids Oct. 3, imprv. Proj. M-4296, Sheiby Co. CD 9/25—ENR 9/28.

Kansas—State Hy. Dpt., Smith Center, rejected bids Sept. 20, imprv. 6.497 mi. Proj. 3778, Smith Co. CD 9/5—ENR 9/7.

Kentucky—Dpt. Hys., Frankfort, rejected bids imprv. 0.104 mi. Frankfort-Shelbyville Rd., SN-SP 37-145, Franklin Co. Will readvertise. CD 9/1—ENR 9/7.

LOW BIDDERS

†California—Pub. Roads Admin., 70 Phelan Bldg., San Francisco, 26 mi. access road to Bessemer and Washington Lode Claims, Calif. DA-RM-187 (2), San Bernardino Co., from Phoenix Constr. Co., Box 906, Bakersfield, **$50,693.**

California—State Div. Hys., 801 Bldg., Los Angeles, Oct. 5, imprv. 13.1 mi. San Bernardino Co., from C. Fraxini, South St., Tonopah, Nev., **$42,325.** CD 9/

†Calif., Wilmington—U. S. Eng., 751 Figueroa St., Los Angeles, Zone 14, paving portion Medora St., Hermosa St., and road crossing with concrete and asphaltic concrete, No. 33, from Frontier Constr. Co. & D. A. Williams, Bank of America Bldg., Whittier, **$25,792.**

D. C., Wash.—District Comrs., District Bldg., Oct. 2 imprv. roadways, vicinity 2 St. and Buena Vista Terrace S.E., DC 172, from Wilmoth Paving Co., Washington National Airport, Arlington, Va., **$66,** **FWA.** CD 9/23—ENR 10/5.

†D. C., Wash.—District Comrs., District Bldg., Oct. 4, imprv. 14 St. N.W. from Montague St. to Concord Ave., and 16 St. N.W., **$26,793** and **$37,995,** respectively. CD 9/26—ENR 9/28.

Illinois—State Div. Hys., Springfield, Oct. 6, imprv. 2.37 mi. Williamson Co., Triangle Constr. Co., 480 N. Evergreen Ave., Kankakee, **$113,306.** CD 9/27—ENR 10/5

STREETS, etc. (Low Bidders Cont'd.)

Ill., Peoria—State Div. Hys., Springfield. ..t. 24, concrete paving, concrete bin re-..ing wall, spec. excav., concrete sidewalks, ..m sewer 0.1979 mi. Proj. 12-A-5-Cs, from ..rks Brothers, 734 Kansas Ave., Peoria, ..,174. L. D. Jeffries, City Hall, city engr.

Mass., Boston—City Dpt. P. Wks., City ..ll Annex, Sept. 23, bituminous concrete ..vement in Calumet, Darling, Mansur, ..reet, Sachem, Walt, New Health and ..ter Sts. and Delle Ave., from Dooley ..rker Sts. and George St., (Roxbury), Boston, ..t, Inc., 29 George St., (Roxbury), Boston, ..,491. CD 9/21.

Ohio—State Hy Dpt., Columbus, Sept. 29, ..ding, drainage structures, rein.-con. pav-..g 1.949 mi. 17 Ave. extension road, Frank-..n Co. from Visintine & Co., 1315 Edgehill ..., Columbus, Zone 8, $178,889, est. $262,-..***grading, drainage structures, asphaltic ..ete paving, concrete beam bridge on ..ete substructure over branch East ..k Mill Creek, Sect. A of SH 932, Hamilton ... from J. Hill, 491 Lexington Ave., Mans-..d, $84,327, est. $57,600***grading, drain-..e structures, surface treated stabilized ..terial surfacing, constructing continuous ..el beam bridge with concrete deck and ..structure over Raccoon Creek, 0.532 mi. ..t. F of SH 546, Licking Co., from A. J. ..ites Inc., 11 Olive St., Norwalk, $90,794. ..$94,900***asphaltic concrete resurfacing ..21 mi. secs. of State Hy. Nos. 10, 49, 359 ..d 188, Fairfield Co., from F. H. Brewer, ..O. Box 48, Lancaster, $55,587, est. $56,560 ..21.619 mi. secs. S. Hy. Nos. 60 and 162, ..ron Co., from Ohio Road Improvement ..Chamber of Commerce Bldg., Columbus, ..189, est. $29,200***1.302 mi. Sect. E-1 of ..130 and Sect. G of SH 649, Trumbull Co., ..n Kane, O'Horo & Haenny, 65 W. ..lanois Ave., Youngstown, $65,616, est. ..1,000. No bids received Sept. 29, asphaltic ..crete resurfacing 0.7408 mi. sect. Logan of ..166, Hocking Co., est. $11,800.

Oregon—Pub. Roads Admin., New P. O. ..g., Portland, Sept. 26, imprv. North Ump-..a Timber access road from Charles Shan-..n & Son, Great Falls, Mont., $102,575.

Virginia—State Dpt. Hys., Richmond, Oct. ..aving 4.5 mi. road, overpass over Rt. 3, ..ge over Hazel Run and 2 bridges over ..P. Canal, Spotsylvania Co., from E. W. ..ther, RFD 3, Richmond, $518,874. CD ..5—ENR 9/28.

Wash., Seattle—U. S. Eng., 800 3 Ave., ..ttle, Zone 4, Sept. 29, paving Pier E, ..rage area, Port of Embarkation from ..rthwest Constr. Co., 3950 6 Ave. N.W., ..,538.

CONTRACTS AWARDED

Calif., Van Nuys—Lockheed Aircraft Corp., ..6 Hollywood Way, Burbank, laying ..rox. 90,000 sq. yd. asphaltic concrete pav-.. and constructing fence, to Ford J. ..alts Co., 451 S. Boyleston St., Los ..eles, $158,944. Bids 10/3. D. B. Parkin-..n 423 S. Spring St., Los Angeles, archt.

Calif., Crane—Yards & Docks, Navy Dpt., ..t. and Constitution Ave. N.W., Wash., D. ..C., grading and paving at 4 ordnance ..houses, Naval Amiaunition Depot, NOY ..2, to Ralph Rogers & Co., Bloomington, ..,200.

Minnesota—State Hy. Dpt., St. Paul, grad-..bridge, S.P. 7904-09 (Trunk Hy. 61-3) ..A-FAP 327 (3), Bridge No. 6461, over ..an Creek, north of Weaver, Wabash Co., ..L. Joyce, 218 1 Ave. S.W., Rochester and ..on, Mullen & Webster, 355 Gateway ..r., Minneapolis, $117,354. CD 8/30— ENR

N. J., Earle—Yards & Docks, Navy Dpt., ..t. and Constitution Ave. N.W., Wash., ..D. C., curbs, gutters, spillway and road ..es, Naval Ammunition Depot, NOY ..8, to Chas. F. Vachris, Inc., 377 Remsen ..., Brooklyn, 12, N. Y., $124,200.

N. J., Earle—Yards & Docks, Navy Dpt., ..t. and Constitution Ave. N.W., Wash., ..D. C., concrete roads depot area, Naval ..munition Depot, NOY 10930, to Bracatello, ..e, Nesto & Spiniello, 457 Riverside Ave., ..ark, Zone 4, $42,300.

North Carolina—State Hy. and P. Wks., ..n., Raleigh, imprv. 7.94 mi. hy. Better-.. Sect. 706044-122 (Part 1) and Code ..144-3 (Part 2) Rowan Co., to Blythe ..Co. Inc., 424 S. Brevard St., Charlotte, ..16. Bids 9/29.

Pa., South Williamsport (br. Williamsport) ..orough Council, grading, paving, curbing, ..., Howard, and Curtin Sts., East South-..Ave., to H. P. Webb Co., Lock Haven, ..., Awarded Sept. 25.

Tex., Hopewell—D. Laprade, city engr., City ..Gravel and asphalt resurfacing streets ..R. Ford Co. Inc. Est. $40,000. Awarded ..27.

Wash., Washington—B. Banta, dir. State Hy. Dpt., ..ngton, imprv. 5.7 mi. Grays Harbor Co., ..Pound Constr. & Eng. Co., 1403 W. 45 ..Seattle, $213,133; imprv. State Hys. 12, ..4 and 12-F, Cowlitz and Wahkiakum Counties, to D. F. Whittaker, Smith Tower, Seattle, Zone 4, $69,623. Bids 10/3. CD 9/19—ENR 9/21.

Wash., Seattle—Port of Seattle, Bell St., Terminal, paving entrance roadway to Seattle-Tacoma Airport, to Northwest Constr. Co., 3950 6 Ave. N.W., $41,921. Bids 9/29.

West Virginia—State Road Comn., Charleston, 3 and 6 in. stone traffic bound base surfacing, scarifying, shoulders ditches, etc., 6 mi. U.S. 219 at Gilman to U.S. 219 north of Kerens Secondary Rd., Proj. 5456-5763, Randolph Co., to Murphy Constr. Co., Morgantown, $35,730. Bids 10/3.

Man., Winnipeg — Municipality, pavement repairs on 12 st. and lanes, day labor, $33,-884. W. D. Hurst, City Hall, engr.

Man., Winnipeg—Dept. National Defense (Army), Ottawa, Ont., surfacing roads at military center to J. D. Bacher, Dauphin, $55,000.

Newfoundland, Lomond—Provincial Govt., St. John's, construct road between here and Woody Point, day labor, est. $30,000. R. Knight, Dpt. P. Wks., St. John's, engr.

Newfoundland, St. John's—Housing Corp., St. John's, grading, graveling road from Mount Cashel to Kenmount Rd. Day labor. $25,000. M. Searles, c/o Owner, engr.

Ont., Camp Borden—Dpt. National Defense (Army) Ottawa, road imprvs. to Law Const. Co. Ltd., 225 Sterling Rd., Toronto, $37,000. Bids 8/10. CD 8/3.

Que., Arvida—Aluminum Co. of Canada, Ltd., Sun Life Bldg., Montreal, paving. Day labor. $28,000.

EARTHWORK, WATERWAYS

PROPOSED WORK

Kan., Coffeyville—City, $22,000 bond election Nov. 7, levees on Verdigris River east side of city. CD 11/19—ENR 11/25.

Mass., Salem—City, Municipal Bldg., preparing plans dredging, bulkheads, imprv. North River. Fay, Spofford & Thorndike, 11 Beacon St., Boston, engrs.

Tex., Beaumont—Neches Butane Products Co., Port Neches, 7,380 ft. outfall canal 3 ft. deep, from Molasses Bay to Neches River. Over $15,000.

†Washington — Bureau Reclamation, Yakima, bids soon constructing last 10 mi. main canal, Roza Div., Yakima project, Benton Co.; bids this winter laterals to serve 5,000 acres east of Prosser to Benton City.

Que., Plaisance—Municipality, c/o L. Lavole, mayor, imprvs. along River Nation and reconstruction Thurso Road. $35,000.

BIDS ASKED

Bids Asked October 17

†S. C., Charleston—U. S. Eng., 32 Customhouse maintenance dredging Intra-Coastal Waterway from Cape Fear River to Winyah Bay, Section south of Little River, No. 38-081-45-2.

Ont., Walpole Island (Wallaceburg)—Secy. Dpt. P. Wks., Ottawa, shore protection. About $35,000.

Bids Asked November 9

†Oregon — Bureau Reclamation, Dpt. Interior, W. R. Young, acting ch. engr., Denver, Colo., furnishing, del. f.o.b. cars at shipping point or f.o.b. cars, Culver, 1 lot trashrack metalwork, one 10 ft. 3 in. x 20 ft. radial gate with rollers, pin bearings, wall plates, gate sill, accessories, 10,000 lb. motor-operated radial-gate hoist, complete with motor controls, accessories for installation at Cove power plant, Unit 3, Deschutes Project, Spec. 1775-D.

Bids Asked November 10

†Okla., Blair—Bureau Reclamation, Dpt. Interior, H. W. Bashore, comr., Altus constructing West canal turnout at station 224 plus 25.3, Altus Main Canal; check at station 224 plus 48.95, Altus Main Canal, earthwork and structures, Station 0 plus 75.5 to station 589 plus 25, West Canal Altus project, west of here, Spec. 1081.

LOW BIDDERS

Calif., Long Beach—City Harbor Dpt., 1333 El Embarcadero, Oct. 4, providing protective jacketing of wood piling at Berths 1, 2, 3, outer harbor Spec. HD-179, poured in place concrete, from Chas. A. Dutro & Assoc., 307 W. 3 St., Los Angeles, $143,200. R. R. Shoemaker. 1333 El Embarcadero, engr.

Calif., Los Angeles — City Harbor Dpt., Branch City Hall, San Pedro, furnishing, installing backflow protection units at 55 separate locations in Los Angeles Harbor area, Spec. 1307, from Hoagland-Findley Engineering Co., 3254 Cherry Ave., Long Beach, $125,953. Bids /21, awarded 10/5.

Calif., Los Angeles—City, City Hall, Oct. 5, grading, repairing portions Arroyo Seco Channel, from Consolidated Crane Service Co., 2629 Nevin St., $98,649. Est. $60,655. L. Aldrich, City Hall, engr.

Calif., Los Angeles — Bd. Supervs. Los Angeles Co. Flood Control Dist., 751 S. Figueroa St., Oct. 3, 338,042 cu. yd. excav., clearing, removing obstructions channel in Los Angeles River, from S. A. Marshall, 2653 13 St., Sacramento, $40,170. Est. $80,-000. CD 9/26.

Calif., Venice—City of Los Angeles, City Hall, Oct. 4, excavating 200,000 cu. yd. dune sand and transporting to public beach, from N. A. Moore, 2455 Sherwood Rd., San Marino, $116,000. L. Aldrich, City Hall, Los Angeles, engr. CD 9/22.

†Montana—Bureau Reclamation, Dpt. Interior, Fairfield, Sept. 30, Sun River crossing, Pishkun canal, Spec. 1771-D, from E. Genger, Fairfield, $108,070. CD 9/13—ENR 9/21.

N. Y., Long Beach—Henry A. Cohen, dir. Bureau of Contracts & Accounts, State Office Bldg., Albany, Sept. 29, stone coast protection jetty on Atlantic Ocean shorefront, Tennessee Ave., Nassau Co., from A. M. Diamond, 50 Court St., Brooklyn, $63,000. CD 9/21.

Tex., Aransas Pass — City, port imprvs., incl. hydraulic fill within sea wall, hydraulic fill in North Harbor, fill in South Harbor, concrete pile bulkhead and concrete retaining wall, from Bauer-Smith Dredging Co., Port Lavaca, $312,400. CD 9/15.

Wash., Bellingham—Port of Bellingham, H. F. Isler, mgr., Municipal Dock, Oct. 2, exten., raising breakwater, from C. Branham, Anacortes, $48,868. Est. $50,000. CD 9/18—ENR 9/21.

CONTRACTS AWARDED

†Ark., Texarkana—U. S. Eng., 231 W. Main St., Denison, Tex., levee repairs, embankments for Ogden Levee Dist., Ser. 41-242-45-36, Little Rover Co., to Morse Bros. & Associates Constr. Co., Ardis Bldg., Shreveport, La., $29,900.

†Calif., Oakland—U. S. Eng., 74 New Montgomery St., San Francisco, levee at Oakland Municipal Airport, Spec. 1400-3, to Macco Constr. Co., Freight and Ferry Sts., $176,990.

Calif., Redondo Beach—City and group of property owners fronting Pacific Ocean, City Hall, 1,350 ft. rock sea wall 12 ft. high, to Ansco Constr. Co., 2726 Atlantic Ave., Long Beach, approx. $42,000. D. L. Bundy, city engr.

†Connecticut—U. S. Eng., 319 Industrial Trust Bldg., Providence, R. I., dredging Housatonic River, maintenance job, No. 45/5, to American Hydraulic, Inc., Lee Highway, Arlington, Va., $14,500. Bids 10/3.

†Tenn., Memphis—U. S. Eng., P. O. Box 97, Memphis, Zone 1, approx. 1,275 lin. ft. pile dike in Mississippi River at Vice President's Island, vicinity of here, to Patton-Tully Transportation Co., N. 2 St., $71,200. Bids 9/29. CD 9/19—ENR 9/21.

†Tex., Corsicana—U. S. Eng., 231 W. Main St., Denison, levee repairs, embankments for Navarro Co. Levee Impr. Dist., Chambers and Cujmins Creeks, Navarro Co., to E. W. Hable, Corsicana, approx. $23,600.

†Tex., Kaufman—U. S. Eng., 231 W. Main St., Denison, levee repairs, Tex. 41-242-45-36, to Markham & Brown, Kearney, Crume & Co., Box 6247, Houston, $73,379.

Que., Montreal East (Postal Dist, Montreal)—British American Oil Co. Ltd., Montreal East, concrete sump pump, 1,500 ft. concrete lined ditch, 2 ft. wide, to Anglin-Norcross Quebec Ltd., 892 W. Sherbrooke St., Montreal. $40,000. Bids 9/20.

LATIN AMERICA

Mexico, Atzcapotzalco—Cia. Algamex de Ensenada, Estio, 27, Atzcapotzalco, D. F., plans plant for production of Agar-Agar. $125,000.

Mexico, Mexico City—Artes Metalicas, Callejon de San Miguel, 10, Mexico, D. F., plans gas stove manufacturing plant. $100,-000.

Mexico, Mexico City—Manf. Estufas y Refigeradores, Balderas, 32-102, Mexico, D. F., plans stove manufacturing plant. $100,000.

Mexico, Mexico City—Productos Etna, S. A. (Eugenio Morales Mireles, mgr.), Motolinia, 27-206 Mexico, D. F., plans plant for manufacturing hand lanterns. $190,000.

Mexico, Mexico City—Reynolds Metals Co., 810 E. Franklin St., Richmond, Va., U. S. A., plans 6 million pound capacity tin paper factory. $560,000.

LATIN AMERICA (Cont'd.)

Mexico, Mexico City—Estufas Simplex, S. A., Isabela la Catolica, 369, Mexico, D. F., plans stove manufacturing plant. $100,000.

Mexico, Torreon — Cia. Cervecera La Laguna, Chihuahua City, plans brewery annex. $250,000.

Vera Cruz., Jalapa—Carlos Lascurain y Zulueta, Madero, 56, Jalapa, plans plant for dry distillation of wood. $125,000.

PUBLIC BUILDINGS

PROPOSED WORK

†**Calif., Alameda—Oakland**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 465 unit family dwelling units, Calif. 4895-N.

†**Calif., Albany**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 100 unit family dwellings, Calif. 4894-N.

†**Calif., Fallbrook**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 25 family dwelling units, serving Naval Ammunition Depot, Calif. 4899-N.

†**Calif., Hunters Point**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, management and maintenance bldg., Calif. 4664. Wm. Clement Ambros & E. T. Spencer, 369 Pine St., San Francisco, archts.

Calif., Long Beach—City Bd. Educ., Long Beach, 1 story, mezzanine, central kitchen for school cafeteria sys. $60,000. J. H. Davies, Ocean Center Bldg., engr.

★**Calif., Long Beach**—City Bd. Educ., City Hall, plans by W. Dedrick, Heartwell Bldg., Barton School; plans by R. A. Stites, Farmers & Merchants Bank Bldg., Edison School; plans by H. R. Davies, Security Bldg., Garfield School; plans by R. D. Van Alstyne, 294 Myrtle Ave., Lafayette School; plans by H. C. Wildman, 542 Chestnut Ave., Longfellow School; plans by H. Gibbs, 441 E. 1 St., Cerritos School; plans by J. Jones, F. & M. Bank Bldg., John Muir School; plans by F. Gentry, 656 Terraine Ave., Lindbergh School; plans by K. S. Wing, 501 Termino Ave., West Side School, Calif., 41621-N. $723,088. FWA.

†**Calif., Los Angeles**—Pub. Housing Auth., NHA, Phelan Bldg., 760 Market St., San Francisco, 350 family dwelling units, Calif. 4904-N.

†**Calif., Mare Island**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 250 family dwelling units, Calif. 4892-N.

†**Calif., Oceanside**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 450 family dwelling units, serving Camp Pendleton and Naval Hospital and A.T.B., Calif. 4900-N.

†**Calif., Oxnard**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 170 family dwelling units, to serve Naval Base, Calif. 4897-N.

†**Calif., Pleasanton**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 400 unit family dwelling proj., Calif. 4893-M.

†**Calif., San Diego**—San Diego Unified School Dist., San Francisco, Dana Junior High school. Calif. 4-624-N. $287,000. FWA.

†**Calif., San Diego**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 375 family dwelling units, Calif. 4901-N; 135 family dwelling units, Calif. 4902-N.

†**Calif., San Francisco**—Pub. Housing Auth., NHA, Phelan Bldg., 760 Market St., 610 family dwelling units, Calif. 4896-N; 175 family dwelling units, Calif. 4891-N.

†**Calif., San Francisco**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, plans by F. H. Reimers, 233 Post St., and J. C. Funk, 21 Columbus Ave., 200 temporary family dwelling units, Calif. 4886. CD 9/11—ENR 9/14.

†**Calif., San Francisco East Bay, Alameda**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 465 family dwelling units, serving Naval Supply Depot, Naval Hospital and Naval Air Station, Calif. 4896-N.

†**Calif., San Francisco, East Bay and Pleasanton**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 400 family dwelling units, Calif. 4893-N.

†**Calif., San Francisco-North Bay-Vallejo**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 250 family dwelling units, to serve Marine Barracks and Naval Hospital and Naval Ammunition Depot, Calif. 4892-N.

†**Calif., San Francisco-San Pablo Bay-Richmond**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 100 family dwelling units to serve Naval Landing force equip. depot, Calif. 4894-N.

†**Calif., Santa Ana**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 355 family dwelling units serving Marine Corp Air Station at El Toro and Naval Air Station at Santa Ana, Calif. 4898-N.

†**Calif., Terminal Island**—Yards & Docks, Navy Dpt., 13 St. and Constitution Ave. N.W., Wash., 25, D. C., conversion of Bldg. 130 to Sheet Metal shop, Naval Dry Docks, NOY 10039.

†**D. C., Wash.**—U. S. Eng., 1 and Douglas Sts., N.W., Zone 25, soon takes bids Gymnasium, at Walter Reed Hospital, $300,000. Rejected 8/29 bids. CD 8/31—ENR 9/7 under LB.

†**D. C., Wash.**—Federal Works Agency, 18 and F Sts. N. W., Zone 25, dormitory at Gallinger Memorial Hospital, DC 119-181. $99,000.

†**D. C., Wash.**—Pub. Housing Auth., NHA, Longfellow Bldg., 1301 Conecticut Ave. N.W., Zone 25, postponed indefinitely bids to have been opened Oct. 16, 440 permanent family dwelling units, D. C. 1-13, for National Capitol Housing Auth., 1737 L St. N.W. Saarinen & Swanson, 2017 S St. N.W., archts. CD 9/11—ENR 9/14.

†**Ill., Decatur**—Decatur and Macon County Hospital Association, plans hospital and nurse's home, Ill. 11-229-N (Revised) $295,736. FWA.

†**Ind., Evansville** — Pub. Housing Auth., NHA, 201 N. Wells St., Chicago 6, Ill., approx. 753 ft. 24 in. sewer, manholes, storm water inlets, Ind. 12-212-F. $9,500. FWA.

†**Me., South Portland (br. Portland)**—Pub. Housing Auth., NHA, 24 School St., Boston 8, Mass., plans by A. J. Harriman, 83 Shepley St., Auburn, altering for cafeteria and morale activities bldgs., Cushing Village.

†**Mich., Livonia**—School Dist. No. 5, Fractional of Farmington, Livonia and Redford Twps., 2 story, elementary grade addn. to high school, Mich. 20-373-N. $64,400. FWA.

†**Mich., Royal Oak**—Bd. Educ., Royal Oak Twp., Royal Oak, plans by G. D. Mason, 409 Griswold St., Detroit, school, Mich. 20362-F. $375,000. FWA.

†**Mass., Salem**—Salem Hospital, Highland Ave., 2 story, part bsmnt., nurse's dormitory addn., etc., Mass. 19-194-N. $60,000. FWA.

Minn., St. Paul—State, Gillette State Hospital, 1003 Ivy Ave., E., student nurse's home Minn. 21-137-N. $33,000. FWA.

★†**Mo., Kansas City**—St. Luke's Hospital of Kansas City, 44 and Mill Creek Sts., student nurses home, remodeling existing nurse's home, etc., Mo. 23-236-N. $640,000. FWA.

†**Mo., St. Louis**—St. Mary's Infirmary, Sisters of St. Mary, 1536 Papin St., Zone 3, plans by P. M. O'Meara & Associates, 4908 Delmar Blvd., Zone 8, 5 story bsmnt., nurses home, Mo. 23-303-N. $120,000-$150,000. FWA. CD 9/28—ENR 10/5.

†**Mont., Billings**—Sisters of Charity of Leavenworth, Billings, 3 story, bsmnt., dormitory and classroom bldg. for student nurses, St. Vincent's Hospital, Mont. 24-114-N. $349,-910. FWA.

†**Mont., Bozeman** — Bozeman Deaconess Hospital, nurse's home addn., Bozeman Deaconess Hospital, Bozeman, Mont. 24-109-N. $175,200. FWA.

†**Mont., Helena**—Sisters of Charity of Leavenworth, Helena, 3 story, with part 4th story nurse's home addn., St. John's Hospital, Mont. 24-111-N. $76,971. FWA.

†**Mont., Missoula**—Sisters of Charity of Leavenworth, St. Patricks Hospital, student nurse's dormitory, training facilities, power house addn., etc., St. Patricks Hospital, Mont. 24-115-N. $37,234. FWA.

†**Neb., Grand Island**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago 6, Ill., 100 unit, family portable shelters, Neb. 25086.

†**Neb., Omaha**—Bd. Regents of University OF Nebraska, 42 and Dewey Sts., nurse's home, Neb. 25-156-N. $96,000. FWA.

†**N. H., Manchester**—Pub. Housing Auth., NHA, 24 School St., Boston, 8, Mass., making plans site imprvs., grading, drainage work, N.H. 27021.

†**N. J., Fort Dix (br. Wrightstown)**—U. S. Eng., 120 Wall St., New York, 5, N. Y., bids soon altering reception center bld.

†**N. J., Trenton**—Pub. Housing Auth., NHA, 270 Bway., New York 7, N. Y., 1 story community bldg. addn. and playground area. N. J. 28-189-F. $20,600. FWA.

†**N. Y., Brooklyn**—U. S. Eng., 120 Wall St., New York, Zone 5, bids soon repairing Embarkation Bldg. $21,000.

†**N. Y., Jamaica**—Mary Immaculate Hospital Association, 152-11 89 Ave., nurse's home addn. N. Y. 30-254-N. $28,600. FWA.

†**N. Y., Long Island City**—U. S. Eng., 120 Wall St., New York, Zone 5, bids soon film storage vault. $84,600.

★**O., Cleveland**—City, E. L. Worthington, dir., City Hall, sketches by H. Kregelius, City Hall, 2 story, 92x275 ft., steel, stone, concrete market house bldg. $825,000.

†**O., Massillon**—Massillon Hospital Assn., Massillon, 1 story nurses' home and training annex, O. 23-127-N (revised). $130,000. FWA.

O., Youngstown—Mahoning Co., Youngstown, 1 story combination hospital and mental bldg., County Home. $306,853. M. Scheibel, Realty Bldg., archt.

†**Ore., Astoria**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle 1, Wash., 30 unit family dwellings, Ore. 35302-N, to serve Naval Hospital.

†**Ore., Beaverton**—School Dist. No. 48, Washington County, Beaverton School Addn., Ore. 35-179-N. $60,000. FWA.

†**Ore., Klamath Falls**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle 1, Wash., 30 unit family dwellings, Ore. 35303-N, for Navy Dpt.

†**Ore., The Dallas**—The Dallas Hospital Co., The Dallas, plans by Wolff & Phillips, Pearson 4 Ave. Bldg., Portland, 2 story, 42x85 ft., masonry nurses' home. $95,000. FWA. CD. 10/4.

†**S. D., Watertown**—Luther Hospital, Watertown, nurses' home, S.D. 39-123-F. $41,000. FWA.

†**Tex., Birdville**—Birdville Independent School Dist., 1 story, 4 classroom school, sanitary facilities, Tex. 41-699-N. $24,500. FWA.

Tex., Eagle Pass—Eagle Pass Ind. School Dist., Eagle Pass, rebuilding high school gym. and auditorium bldg., over $150,000. Rejected 9/22 bids. C. H. Page & Brown, Enfield-Gracy Bldg., Austin, archts. CD 9/13—ENR 9/14.

Tex., Huntsville—Sam Houston State Teachers College, c/o Bd. Regents, Huntsville, mechanical machine shop. $50,000.

†**Va., Chincoteague**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., architectural-engineering services by A. R. Clas, Shoreham Bldg., Wash. 5, D. C., Naval Ordnance Test Station.

†**Va., Newport News**—Helen Buxton Training School for Nurses, Newport News, nurse training school, Va. 44-354. FWA. Proj. withdrawn. CD 9/26—ENR 9/28.

†**Va., Newport News**—Newport News General and Non-Sectarian Hospital Association, Inc., Newport News, 3 story, bsmnt., addn. hospital addn. and nurses' home, Riverside Hospital, Va. 44-421-N. $179,000. FWA.

†**Va., Norfolk**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addn. Naval Hospital. $292,000.

†**Wash., Anacortes**—Whidbey Island—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 50 unit family dwellings Wash. 45274-N, to serve Naval Air Station.

†**Wash., Forks**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 25 unit family dwellings, Wash. 45277-N, to serve Naval Auxiliary Air Station.

†**Wash., Pacific Beach**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 30 unit family dwellings, Wash. 45278-N to serve N.A.A.S.

†**Wash., Pasco**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 115 unit family dwellings, Wash. 45279-N to serve Naval Air Station.

†**Wash., Port Townsend**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 20 unit family dwellings, Wash. 45275-N, to serve Naval Magnesium Depot, Grand Island.

†**Wash., Seattle**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Zone 1, 150 unit family dwellings, Wash. 45280-N for Navy.

†**Wash., Seattle**—Virginia Mason Hospital, 1101 Terry Ave., plans by J. Graham, Dexter Horton Bldg., Zone 4, 2 story, bsmnt., 60x75 ft. and 40x90 ft., rein.-con. laundry & nurses' home addns., Wash. 45-316-F. $168,700. FWA. CD 9/23—ENR 10/4.

†**Wash., Shelton**—Pub. Housing Auth., NHA, Skinner Bldg., 5 Ave. and Union St., Seattle, Zone 1, 20 unit family dwellings, Wash. 45276-N, to serve Naval Auxiliary Air Station.

†**Wash., Spokane**—Sacred Heart Hospital, 2 and Division Sts., plans by G. A. Pehrman, Old National Bank Bldg., 2 story, 40x246 ft. rein.-con. nurse's home, Wash. 45-314-F. $110,280. FWA. CD 9/23—ENR 10/5.

†**Wash., Tacoma**—Tacoma General Hospital, 315 S. K St., plans by Mock & Morrison, Perkins Bldg., 5 story, 50x172 ft. and 4 story, 40x55 ft. rein.-con. nurse's home addns., Wash. 45-307-N. $375,000. FWA. CD 9/23—ENR 10/5.

†**Wash., Walla Walla**—Sisters of Charity of House of Providence, nurses' home, St. Mary's Hospital, Wash. 45-309-N. $197,000. FWA.

†**W. Va., Morgantown**—County Court Monongalia Co., dismantling dormitory now located at Dublin, Va., and transporting and erecting, remodeling, here for nurses' home, Monongalia General Hospital, W. Va. 143-F. $46,560. FWA.

†**Wis., Baraboo**—Sisters of St. Mary, Baraboo, plans by I. A. Siberz, 103 W. Mifflin St., Madison, 2 story, brick hospital addn.

PUBLIC BLDGS. (Proposed Work, Cont'd.)

...y's Ringling Hospital, Wis. 47-132-N. ...,148. FWA. CD 8/30—ENR 9/7.

†Wis., Merrimac—Pub. Housing Auth., ...HA, 201 N. Wells St., Chicago 6, Ill., 200 ...t family stop-gap housing, Wis. 47052.

†Alaska, Fairbanks — Federal Works ...ency, Alaska Bldg., Seattle, 4, Wash., ...reation center, Alaska 5161-F. $31,000.

†N. S., Halifax—City, Mayor Lloyd, City ...Hall, housing in various parts of city. ...,000,000.

Ont., Hamilton—City, 356x282 ft., audi... $400,000. E. H. Darling, c/o City.

Ont., Kitchener—City, C. G. Lipo, clk., ...ns by Hutton & Souter, 36 James St. ...milton, 170x120 ft., brick, steel, memorial ...itorium, incl. hockey rink, etc. $250,000.

Que., Farnham — Dominion Govt., c/o ...Ministry of Pensions & National Health, ...tawa, plans by Dpt. P. Wks., Hunter Bldg., ...tawa, Ont., 500 bed military hospital, ...,000.

Que., Hull—Wartime Housing Ltd., 55 York ...Toronto, Ont., bids soon 50 addnl. semi... ...manent type houses.

Que., Quebec City—Dominion Govt., c/o ...istry of Pensions and National Health, ...tawa, Ont., plans by Dpt. P. Wks., Ottawa, ...t. military hospital.

Sask., Regina — City, health centre. ...$2,500,000.

Sask., Saskatoon—City, health centre. ...$2,500,000.

...DS ASKED

Bids Asked October 20

†Ore., Portland—Emanuel Hospital, 2300 ...Commercial St., nurse's home, Ore. 35-...-N. $299,700. FWA. CD 10/4.

Bids Asked October 23

Ind., Gary—Mrs. Frankie Helman, trustee ...umet Twp., Lake County Court House, ...Bway., 3 story, brick, rein.-con. high ...ool. $136,000. FWA. Extended date. ...e H. Wildermuth & Co., 527 Bway., archt. ...9/15—ENR 9/21.

Ill., Robbins—Federal Works Agency, 18 ...d F Sts. N.W., Wash., 25, D. C., 1 story, ...cois Memorial School Addn., Ill. 11-289. ...WA. R. H. Zook, 140 S. Dearborn St., ...icago, archt. CD 5/17—ENR 5/25.

Bids Asked November 13

†Pa., Chester—Bd. Educ., Town Hall, ...ncol, 7 and Highland Sts., Pa. 36244, ...,148; school addn., 7 and Central Sts., ...36259, $109,286. FWA. J. M. Blew & ..., Otis Bldg., Phila., archts. CD 8/16—...NR 8/24.

Bids Asked After December 15

†Wyo., Laramie—Bureau of Mines, Dpt. ...terior, Laramie, 3 and 4 story, 175x200 ft., ...n.-con.; stone facing shale laboratory on ...iversity of Wyoming campus. $480,000. ...ederic Hutchinson Porter, 2113 Central ...ve., Cheyenne, archt.

...W BIDDERS

†Calif., Hunters Point—Yards & Docks, ...vy Dpt., 18 St. and Constitution Ave. N.W., ...ash., 25, D. C., Oct. 2, optical bldg., at ...val Dry Docks, Spec. 15237, NOY 10984, ...m Cahill Bros., Inc., 206 Sansome St., San ...ancisco, $314,779. CD 5/9—ENR 5/11.

†Calif., Mira Loma—U. S. Eng., 751 S. ...querea St., Los Angeles, Zone 14, Oct. 2, ...int shop, railroad exten., open storage ...ilities at Quartermaster Depot, No. 20, ...m Alco Constr. Co., 5423 Flemish Village ...ne, Los Angeles, $93,120.

†Calif., San Pedro—Pub. Housing Auth., ...NHA, 785 Market St., San Francisco, ...pt. 25, 500 portable dwelling units, Gaffey ...Calif. 4877-A, from Shumaker & Evans ...nstr. Co., 823 W. 5 St., Los Angeles, ...37,462. CD 9/25—ENR 9/28.

†D. C., Wash.—U. S. Eng., 1 and Douglas ...N.W., Zone 25, Oct. 3, laundry bldg., ...Walter Reed General Hospital, from Rob... E. Anderson, 809 Maryland Ave. N.E., ...,853.

†Fla., Daytona Beach—U. S. Eng., 575 ...erside Ave., Jacksonville, Zone 3, alter... bldg. for conversion to convalescent ...spital, from Paul A. Miller Constr. Co., ...esburg, $236,402.

†Mich., Saginaw—Sisters of Charity, St. ...ry's Hospital, East Saginaw, Sept. 15, ...ck, stone, rein.-con. nurse's home, Mich. ...314-N, East Saginaw, from Sorensen-Gross ...st. Co., Flint, $214,716. FWA. CD 9/7—...NR 9/12.

†Pa., Norristown—Dpt. Welfare, c/o Dpt. ...Property & Supplies, Capitol Bldg., ...rrisburg, Oct. 4, Ward Bldg. 51, at Norris... ...n State Hospital, from Wilcox Constr. ..., Inc. and Bowen Fireproofing Co., 25-20 ... Ave., Long Island City, N. Y., $720,000. ...9/11—ENR 9/14.

†Tex., Matagorda—U. S. Eng., 25 St. and ...enue F, Galveston, Sept. 28, office, ware... ...se and gatemen's residences incl. sanitary ...verage sys., water distr. sys., for floodgates at Colorado River crossing of Louisiana and Texas Intracoastal waterway, Ser. 41-243-45-C24, from J. A. Roberts, 2014 Rosedale St., Houston, $72,956.

CONTRACTS AWARDED

Ala., Phenix City—City, hospital, to D. E. Newson, 1017 S. R. R. St., $250,000. CD 10/2—ENR 10/5.

★†**Ark., Shumaker**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., housing, utilities and protection facilities, NOY 11102, to Winston Bros. Co., C. F. Haglin & Sons, Inc., Missouri Valley Bridge & Iron Co., & Sollitt Constr. Co., Inc., 1470 N.W. Bank Bldg., Minneapolis, Minn., $28,118,700. Fraser-Brace Eng. Co., Inc., 10 E. 40 St., New York, N. Y., engr. and archts. National Fireworks Co., Haverhill, Mass., operator.

†**Calif., Mare Island**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., battery charging and overhaul bldg., Naval Ammunition Depot, NOY 9043, to James I. Barnes Constr. Co., Santa Monica, $92,200. CD 9/8.

★†**Calif., San Diego**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., 17 wood frame temporary dwellings, Spec. 14223, NOY 9733, to Griffith Co., 1060 S. Bway., Los Angeles, $739,400. CD 9/29, under CA.

★†**Calif., San Pedro**—Pub. Housing Auth., NHA, 785 Market St., San Francisco, 500 portable dwelling units on 100 acre site on Gaffey St., Calif. 4877-B, to Drycemble Houses, Inc., Architects Bldg., Los Angeles, $557,462. CD 9/11.

†**Calif., San Pedro**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., laundry facilities at disciplinary barracks, Spec. 11579, NOY 6646, to Brunzell Constr. Co., 14715 LaSalle St., Gardena, $123,904. Bids 9/22.

†**Conn., East Hartford**—Pratt & Whitney Div., United Aircraft Corp., 400 Main St., wiring, install. motors for machinery provided by Defence Plant Corp., to Baldwin-Stewart Electric Co., 222 Pearl St., Hartford, $120,402. Defence Plant Corp. will finance.

†**Ind., Camp Atterbury**—U. S. Eng., 612 Federal Bldg., Louisville, Ky., remodeling bldgs. for Medical Dpt. enlisted technicians (WAC) Contr., W-16-029-eng-742, to Whittenberg Corp., 2214 S. Floyd St., Louisville, Ky., $138,912. CD 8/28—ENR 8/31, under LB.

Ia., Sumner—City, power plant imprvs., incl. remodeling power plant exten. bldg., Diesel engine generating unit, switchboard, and station wiring, to R. W. Hughes, Co., 5627 William St., Omaha, Neb. $91,846. Bids 9/25. CD 9/21.

†**Kansas**—U. S. Eng., 10 E. 17 St., Kansas City, Mo., temporary frame bldgs., etc., Contr. W-23-025-Eng-602, Sunflower Ordnance Works, Johnson Co., to Winn-Senter Constr. Co., Railway Exchange Bldg., Kansas City, Mo., $254,171. CD 9/12—ENR 9/14.

†**Mo., Fort Leonard Wood (br. St. Louis)**—U. S. Eng., 816 U. S. Courthouse & Customhouse, St. Louis, Zone 2, shop bldg., incl. utilities, Contr. W-25-075-eng-2709, to Smith-Cooke Const. Co., 4829 Easton St., St. Louis, $48,500.

†**Mo., St. Louis**—U. S. Eng., 816 U. S. Courthouse & Customhouse, Zone 2, superstructures for bldgs., alterations, etc., Chevrolet Shell Div. forging plant, to Alport-Carlo Constr. Co., Ambassador Bldg., approx. $349,819.

★†**Neb., Hastings**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, Ill., transferring 232 unit housing from Bauxite, Ark., to here, incl. roads, utilities, to Ramey & Mathis, Paramount Bldg., Amarillo, Tex., $528,000. Bids 9/14. CD 9/16.

†**Neb., McCook**—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, 6, Ill., moving 100 family dwelling units from Bauxite, Ark., here and constructing roads, utilities, to Ramey & Mathis, Paramount Bldg., Amarillo, Tex., $271,036. Bids 9/14. CD 9/11—ENR 9/14.

†**N. J., Lake Denmark**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., administration bldg., brig, maintenance bldg., garage, NOY 10494, to Romagino Constr. Co., 259 Gorge Rd., Cliffside Park, $84,391.

†**Pa., Phila.**—Defense Plant Corp., 811 Vermont Ave. N.W., Wash., 25, D. C., briquet coal mfg. plant, to Blaw-Knox Co., Farmers Bldg., Pittsburgh, $400,000. Awarded 10/5.

★†**Pa., Phila.**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., heating plant and installing equip. N A M C, NOY 11036, to Day & Zimmerman, Inc., 620 Packard Bldg. Est. $1,000,000.

†**Pa., Phila.**—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., step-up gears, bldg. No. 599, N A M C, NOY 9503, to General Electric Co., River Rd., Schenectady, N. Y., $52,200.

★†**Utah, Ogden**—Sisters of St. Benedict, St. Joseph, Minn., at hospital in Ogden, hospital, Utah 42-178-N, to Jacobsen Constr. Co., 724 S. 3rd East St., Salt Lake City, $726,370; nurses home, Utah 42-178-N, to E. L. Eskman, 6000 S. State St., Salt Lake City, $219,992. FWA. Bids 9/18. CD 9/21 and 26—ENR 9/28 under LB.

†**Wis., Beloit**—Fairbanks, Morse & Co., Beloit, 1 story, 120 x 200 ft., concrete block, warehouse addn., concrete fdn., for Navy Dpt., to Cunningham Bros., 359 E. Grand Ave. Est. $60,000. W. P. Dolke, 189 W. Madison St., Chicago, Ill., engr. Awarded 9/15.

B. C., Vancouver—Dpt. Munitions & Supply, Ottawa, Ont., military hospital, to Northern Const. Co., and J. W. Stewart, Ltd., 736 Granville St., $400,000. C. D. Sutherland, Dpt. P. Wks., Ottawa, Ont., archt.

Man., Portage La Prairie—MILL—Dominion Govt., Ottawa, Ont., Flex fibre mill, to Manitoba Engineering Co., Ltd., Lombard Bldg., Winnipeg, $75,000. CD 7/21—ENR 8/3.

Ont., Camp Borden—Secy. Dpt. Munitions & Supply, Ottawa, central heating plant to W. C. Brennan Contg. Co., Ltd., 400 Gage St., Hamilton, $91,000. Bids 9/14. CD 9/7.

Ont., Toronto—Dpt. Natl. Defense (Sea), Ottawa, Ont., naval training station, Fleet St. W., to W. B. Sullivan Const., Ltd., 30 Bloor St. W., $300,000. CD 7/23/43—ENR 7/29/43.

Ont., Toronto—Wartime Housing, Ltd., 55 York St., 50 semi-permanent houses on various city-owned lots, to Hill-Clark-Francis, Ltd., Whitewood Ave., New Liskeard, about $100,000.

Ont., Waterloo—Municipality, power house to Ellert Bros., 31 Alexandra St. Pub. Utilities Comn., Town Hall, engr.

COMMERCIAL BUILDINGS

PROPOSED WORK

Ala., Gadsden—Baptist Hospital, c/o Dr. R. D. Clark, Gadsden, bids soon hospital. $200,000. R. W. Hofferbert, Gadsden, archt.

Conn., West Hartford—West Hartford Village, Inc., 252 Asylum St., Hartford, completing plans by W Wilkins, 648 Asylum St., Hartford, 50 brick apartment units, $200,000.

Ill., Park Ridge—Homes Inc., c/o T. Criel, 4049 W. Crystal St., plans completed by C. W. Nicol, 59 E. Van Buren St., one hundred and forty 1 and 2 story residences, Cumberland and Peterson Aves.

Ill., Peoria Heights—Pershings Homes, Inc., Knoxville Ave., Peoria, 50 brick, single family houses on Prospect Rd. $250,000-$300,000. FHA.

Tex., Kerrville—Temple Lumber Co., Sanger Lumber Co., and Miller Lumber Co. & Assoc., Kerrville, 25 or more dwellings. $150,000.

Va., Portsmouth—Portsmouth Hotel Corp., c/o Rudolph, Cooke & Van Leeuwen, archts., Arcade Bldg., Norfolk. soon let contract 7 story, bsmnt., 79-115 ft., hotel. $425,000.

Wash., Yakima—Sisters of Charity of House of Providence, Yakima, plans by J. W. Maloney, Larson Bldg., St. Elizabeth's Hospital addn. $370,000.

★**W. Va., Huntington**—St. Mary's Hospital, 2901 1 Ave., plans by Tucker & Handlaser, Hines Bldg., hospital addns. $550,000. CD 9/28—ENR 10/5.

Ont., Hamilton—Wilkinson & Grisenthwaite, 9 Ottawa St. N., plans 71 houses. $426,000.

Ont., Ingersoll—Alexandra Hospital Bd., Ingersoll, hospital. $150,000.

Ont., Niagara Falls—Y. M. C. A., H. Handley, secy., 523 Morrison St., F. H. Leslie, chm., Niagara Falls Evening Review Pub. Co., plans Y. M. C. A. and Y. W. C. A. bldg., Queens St.

Ont., Toronto—R. D'Agnese, 291 Delaware Ave., brick dwellings, concrete fdns. $150,-000.

Ont., Toronto—Glen Stewart Properties, Ltd., Toronto, 1623 W. St. Clair Ave., plans by L. Hunt Stanford, 7 Burnham Rd., two 2 story, bsmnt., brick walls apartment blocks, concrete fdns., Juniper Ave. $150,000.

★**Que., Montreal**—Brien's Nouveau Rosemont, Inc., c/o J. H. Brien, City Hall, one hundred sixty-five 2 story wood frame, brick duplexes comprising 350 dwellings. $825,000.

Que., Montreal—L. Mathieu, 2251 Frontenac St., flat construction program. $150,000.

Que., Normandy—Rev. Grey Nuns of the Cross, Sussex and Water Sts., Ottawa, Ont., two 4 story hospital addns. $250,000.

Que., St. Lambert—Hon. G. A. Simard, 21 Riverside Dr., plans by L. Kerrack, Boucherville, cottage building program. $150,000.

Que., Sillery (Postal Dist. Quebec City)—R. C. Parish, c/o Rev A. Morel, Sillery, church and presbytery. $150,000.

BIDS ASKED

Tex., Houston—L. Baxley, 3813 Bway., c/o Plaza Theatre, rein.-con., hollow tile, stadium-type theatre on Laundale at 75 Sts., $150,000. J. Eberson, 1540 Bway., New York, N. Y., and J. Corgan, Merchants Bank Bldg., Houston, archts. CD 5/17—ENR 5/25.

COMMERCIAL BLDGS. (Cont'd.)

CONTRACTS AWARDED

Ark., Hope—Home Constr. Co., Hope, 25 dwellings. Owner builds. $150,000.

Calif., Compton—Meyer-Nash Corp., 1414 Hollywood Way, Burbank, ten 2 story, frame, stucco 4-unit apartment bldgs., Magnolia St. Owner builds. $165,000.

Ill., Lincolnwood—Prudential Realty Co., 3520 Devon Ave., 44 two story, brick residences. Owner builds. $365,000.

Mont., Colstrip—Great Northern Ry. Co., C. M. Nye, ch. engr., 175 E. 4 St., St. Paul, Minn., brick, rein.-con. school, and recreation bldg., to J. C. Boespflug Constr. Co., Securities Bldg., Seattle, 1, Wash. Est. $200,000. Toltz, King & Day, Pioneer Bldg., St. Paul, Minn., archts.

Pa., Chester—F. A. Collins, Inc., 527 Welsh St., new section residential development at Green Ridge. Owner builds. $150,000.

Pa., Chester—Highland Gardens Realty Co., 116 W. 5 St., residential development at Highland Gardens. Owner builds. $150,000.

★**N. B., Edmundston**—Reverend Sisters Hospital of St. Joseph, St. Basile, 200-bed hospital and nurses' home, to Dansereau, Ltd., 1387 Bernard Ave. W., Montreal, Que., $650,000. CD 7/7—ENR 7/13.

N. B., St. Basile—Rev. Sisters Hospital de St. Joseph, St. Basile, 150-bed, 5 story, bsmnt., sanatarium, to Dansereau, Ltd., 1357 Bernard Ave. W., Montreal, Que., $350,000. Beaule & Morrissette, 21 d'Aiguillon St., Quebec City, archts. CD 9/12—ENR 9/14.

Que., Dolbeau—La Commission Ecolaire de Dolbeau, J. H. Cossette, chn., 3 story, 50x181 ft., rein.-con. and brick school and teachers residence, to Morin & Tremblay, Kenogami. About $225,000. E. Larose, 1480 Blvd. St. Joseph E., Montreal, archt.

Que., Montreal—Societe National de Fiducie, Inc., 41 St. James St., 44 flat bldg., Berri and LaJeinesse St., near Legendre St., to H. A. Martin, 2372 St. Antonie St., $180,500. J. Chevier, 250 Somerville St., archt.

INDUSTRIAL BUILDINGS

PROPOSED WORK

Calif., Fresno—WINERY—Fresno Winery, Inc., Helm Bldg., Fresno and R. K. McGreevy, 1596 Hubbard St., Detroit, Mich., remodeling bldg., into 2 m.g. winery, installing vats, fermenters, etc. $300,000.

Conn., South Manchester—MILL—Cheney Brothers, Hartford Rd., Manchester, making plans rasing old mill bldgs., constructing brick, steel textile mill, Elm and Pine Sts. Over $40,000. H. K. Ferguson, Hanna Bldg., Cleveland, O., engr.

Ill., Chicago — FACTORY — Hallicrafters Co., 2611 S. Indiana St., brick, rein.-con. factory. $100,000.

La., New Orleans—GATE HOUSE BLDG. —T. Goodbee, engineering dpt., Consolidated Vultee Aircraft Corp., 7020 Franklin Ave., soon lets contract gate house bldg. and crane service platform at plant. H. A. Benson, Canal Bank Bldg., archt.

Mass., Fall River—FACTORY—J & J Corrugated Box Corp., 193 Anawan St., plans by S. Dubitsky, 771 Rock St., brick, factory, Perry St. $40,000.

Neb., Omaha—WAREHOUSE—Morewood Warehouse Co., A. W. Fulton, genl. mgr., 802 Leavenworth St., plans by O. Bowles, 4532 Hickory St., 2 story, brick, concrete warehouse 9 and Jones Sts. $250,000.

N. J., Harrison—PLANT—Crucible Steel Co., S. 4 St., 1 story, 30 x 230 ft., brick, steel addn. Bldg. 120. $60,000.

N. J., Secaucus—PLANT—Callite Tungsten Mfg. Co., 540 39 St., Union City, plans by Binda & Bial, 2902 Bergenline Ave., Union City, 1 and 2 story metal salvage bldg. $40,000.

N. C., Charlotte — ABATTOIR — Godley Bros., Mount Holly Rd., 3 story, brick, concrete abattoir, Mount Holly Rd. $150,000.

O., Canton—TURNTABLE IMPROVEMENTS—The Pennsylvania R. R., J. L. Gressitt, ch. engr., Broad St. Station Bldg., 1617 Pennsylvania Blvd., Phila., turn table imprvs., $149,610.

O., Cincinnati—RECOVERY UNITS, etc.—Gulf Refining Co., Gulf Bldg., Pittsburgh, Pa., recovery units, tank and yard lines. $334,286.

O., Toledo—FACTORY—Commercial Metals Treating, Inc., 177 S. St. Clair St., altering 1 story, 90x300 ft. factory. $73,970.

O., Warren—BOILER HOUSE—Packard Electric Div., General Motors Corp., Warren, 1 story, brick, steel boiler house. $313,000. L. L. Sudransky, c/o owner, engr.

Pa., Bala—DORMITORY—The Pennsylvania R. R., J. L. Gressitt, ch. engr., Broad St. Station Bldg., 1617 Pennsylvania Blvd., Phila., soon takes bids dormitory, L. C. Tichy, 369 Lexington Ave., New York, 17, N. Y., archt. $240,000.

Pa., Phila. — DAIRY — Baldwin Dairies, Inc., 4219 Dumfield St., soon lets contract 2 story dairy bldg. Savery Scheetz & Gilmour, 1520 Locust St., archts.

Pa., Phila.—LABORATORY, etc.—Smith Kline & French, 105 N. 15 St., plans by Ballinger Co., 105 S. 12 St., laboratory and office.

R. I., Smithfield—PLANT—City Brass Foundry, 152 Transit St., Woonsocket, sketches, brick, steel, Monitor type plant, Louisquisset Turnpike. $40,000.

Tenn., Jackson—FACTORY—S. Karpen & Bros., 1 Park Ave., New York, 16, N. Y., do not plan to build brick, concrete, steel factory bldg. (Correction—status). CD 9/5—ENR 9/7.

★**Tex., Bishop** — BUTADIENE PLANT — Celanese Corp. of America, Bishop, butadiene plant, $3,000,000. Gasoline Plant Constr. Corp., Bishop, consult. engrs.

Tex., Dalhart—COMPRESSOR UNIT, etc. Canadian River Gas Co., Dalhart, construct. equip. 600 h.p. compressor unit and also 125 kva. electric generating unit, $75,000.

Tex., Edinburg—SHOP BLDG.—Crow Iron Works, Mission, 1 story, semi-fireproof shop, $40,000.

Tex., Houston — PLANT—Browning-Ferris Machinery Co., 2619 Texas St., brick, concrete hollow tile, steel trusses, etc. plant addn. $40,000. L. M. Wirtz, 500 Stuart St., archt.

Tex., Mercedes—PLANT, etc.—Rio Farms, Inc., Edcouch, grain dehydration plant, 6 storage tanks. $50,000.

Tex., Pharr—FREEZER-LOCKER PLANT —R. O. Brewer, Pharr, freezer-locker plant, etc., $40,000.

Tex., San Antonio—REPAIR SHOP, etc.—L. R. Lovelace, 553 Barrett Place, mechanical repair shop and service station, $40,000.

W. Va., Huntington—FACTORY—Zenith Optical Co., Huntington, remodeling parts factory. $65,000.

W. Va., South Charleston—PLANT—Carbide & Carbon Chemicals Corp., 30 E. 42 St., New York, N. Y., steel equip. structure, installing receiving sta., dust valves. $54,000.

Wis., Green Bay—WAREHOUSE—Joannes Bros. Co., 118 S. Washington St., plans by Feldhausen & Coughlen, Columbus Bldg., 1 story, 190x500 ft., brick, steel, rein.-con. warehouse, concrete fdn.

Wis., Oshkosh — WAREHOUSES—Oshkosh Trunks Inc., 443 High St., two 1 or 3 story warehouses.

Alta., Edmonton—WAREHOUSE—Alberta Poultry Marketers, Ltd., Edmonton, bids soon 2 story, warehouse, 103 St. and 102 Ave. $75,000.

Alta., Robb—MINE BLDGS.—Lakeside Coals, Ltd., Edmonton, rebuilding mine bldgs., reconstructing power house, tipple conveyor, housing, wash house, machine shop. Est. about $71,000.

B. C., Nelson (Prince George)—FACTORY —British Columbia Veneer Works, Ltd., Waterfront, Nelson, 12x70x355 ft. factory, near Prince George factory. $40,000.

B. C., Upper Sumas — PLANT — Buckerfields, Ltd., 14 Rogers St., Vancouver, plant addn. frame on concrete fdn. $60,000.

Man., St. Boniface—PLANT—Swift Canadian Co., Ltd., St. Boniface, altering plant. Archibald St., $365,000.

Newfoundland, St. John's—PLANT—Housing Corp., St. John's, sewer pipe and blocks mfg. plant. $40,000. M. Searles, c/o Owner, engr.

Newfoundland, St. John's — MINING PLANT—Jawtam Key Gold Mines Rambler Ltd., I. Mercer, 365 Duckworth St., mining development and bldgs. in Rambler Mineral Area. $75,000.

Ont., Beamsville—GARAGE, etc.—Crown Dominion Oil Co. Ltd., 263 Wallace St., Toronto, plans by G. T. Evans, 513 Pigott Bldg., Hamilton, garage and service station. $40,000.

Ont., Chatham — FACTORY — Canadian Leaf Tobacco Co. Ltd., 7 Dover St., factory. $50,000.

Ont., Fort Erie—PLANT—Fibre Products Co., Ltd., Fort Erie, plant bldg. mfg. various types building materials from fibre. $75,000-$100,000.

Ont., Long Branch (Postal Dist. Toronto) —FACTORY—Aristocrat Mfg. Co. Ltd., 7 Fraser Ave., Toronto, factory, Lake Shore Rd. $50,000.

Ont., Merriton—PLANT—Essex Packing Co., Merriton, 72x82 ft., concrete plant. $60,000.

Ont., Toronto — PLANT — Arthurs-Jones, Ltd., 585 Adelaide St. W., plans by N. A. Armstrong, 19 Melinda St., printing plant. $40,000.

Ont., Toronto—GARAGE—Bell Telephone Co. of Canada, Ltd., 1050 Beaver Hall Hill, Montreal, Que., garage and office bldg. $60,000.

Ont., Toronto—WAREHOUSE—City Grain Co., 38 S. Court St., 42x82 ft., track warehouse. $75,000.

Ont., Toronto—WAREHOUSE, etc.—Imperial Oil Ltd., 150 Laird Dr., warehouse, etc. $95,500. I. G. Wheaton, c/o Owners, engr.

Ont., Toronto—DIAMOND DRILLING, etc. —Lochland Pershing Mines, Ltd., 85 W. Richmond St., diamond drilling, permanent camp bldgs., Pershing Twp. $50,000.

★**Ont., Toronto**—FACTORY—Massey-Harris Co. Ltd., 915 King St. W., plans by Allward & Gouinlock, 57 Bloor St., factory. $500,000.

Ont., Windsor — PLANT — N. Tepperman, 1241 Ottawa St., plans by Shepherd & Mason, 52 W. Chatham St., furniture mfg. plant. $40,000.

Que., Belleterre — DIAMOND DRILLING —Audley Mines Ltd., 85 W. Richmond St., Toronto, Ont., diamond drilling. $50,000 available.

Que., Montreal — FACTORY — Colonial Food Products Ltd., 5772 St. Dominique St., factory. $40,000.

Que., Montreal — PLANT — Irreversible Fluid Meters Co. Ltd., c/o R. Morin, 1201 St. Vlateur St., meters, valves, etc. mfg. plant. $50,000.

Que., Montreal — FACTORY — Johnson & Johnson Ltd., 2155 Pie IX Ave., plans by Ross & MacDonald, 1010 W. Ste. Catherine St., factory exten. $75,000.

Que., Montreal—LABORATORY—Laboratores Poulenc Freres of Canada, Ltd., 386 Youville Sq., plans by L. Venne, 1607 St. Denis St., 1 story, 57 x 80 ft., laboratory addn. $40,000.

Que., Quebec City—WAREHOUSE, etc.—Goodyear Tire & Rubber Co. of Canada, Ltd., 19 Rue de la Concourse, J. H. Deschamps, mgr., 1 story, 64x113 ft., rein.-con. fdn., brick and terra cotta warehouse and office bldg. $75,000.

Que., St. John's—FACTORY—Owner, c/o J. E. A. Benoit, archt., 110 Champlain St., 1 story, 80x600 ft., steel frame factory bldg. concrete fdn. $300,000.

Que., Ste. Gertrude—PLANT—Co-Operative of Ste. Gertrude, Ste. Gertrude, plant. $50,000.

Que., Sherbrooke—OIL STORAGE PLANT —Imperial Oil Ltd., 3400 St. Patrick St., Montreal, bulk oil storage plant, S. Belvedere St. $50,000.

Que., Val d'Or—PLANT—Northland Breweries, Ltd., Val d'Or, brewing and malting plant. $100,000.

BIDS ASKED

Bids Asked About October 17

N. J., Weehawken (Sta. Union City)—TRUCKING TERMINAL — Gratalle Bros., Inc., 130 Harrison St., Hoboken, 1 and 2 story, rein.-con., brick, trucking terminal. $150,000. Binda & Bial, 2902 Bergenline Ave., Union City, archts.

Bids Asked

La., Logansport—PLANT—Southern Natural Gas Co., Watts Bldg., Birmingham, Ala., dehydration plant. $75,000. CD 9/19—ENR 9/21.

★**Mass., Chelsea** — FACTORY — Panther-Panco Rubber Co., Inc., 31 Highland St. (selected bidders), pile fdn. for 1 and 2 story, 150x630 ft., brick, steel factory, $615,000. Excavation, awarded to Walter Reed Corp., 1078 Boylston St., Boston, Wagner-Brown Co., 44 School St., Boston, engr. CD 9/5—ENR 9/7.

Pa., York—WAREHOUSE—Martin Parry Corp. York, warehouse. $50,000.

Tex., San Diego—RECYCLING PLANT—Duval Gasoline Co., San Diego, recycling plant units. $100,000. CD 7/11—ENR 7/13.

★**Wash., Seattle**—OIL REFINERY—North Pacific Pipe Line Co., R. Hines, pres., Billings, Mont., 40,000 bbl. daily cap. refinery. $5,000,000. CD 9/25—ENR 9/28.

LOW BIDDERS

Calif., Long Beach—NEWSPAPER—Press-Telegram Publishing Co., 6 and Pine Sts., 3 story, 40x70 ft. newspaper bldg. addn., rein.-con., from Wm. Curlett & Co., 250 E. Pacific Coast Highway. $60,000. H. C. Wildman, 532 Chestnut Ave., engr.

Colo., Denver—WAREHOUSE, etc.—Goldberg Bros., 1535 Blake St., Oct. 3, 1 story, 125x225 ft., brick, steel frame, pre-cast concrete warehouse, offices and loading docks, from Mead & Mount Constr. Co., Denver National Bldg., $83,866. CD 9/29—ENR 10/5.

DUSTRIAL BLDGS. (Cont'd.)

NTRACTS AWARDED

Calif., Santa Monica—FACTORY—Machine ...rks, Inc., 10 and Colorado St., 2 story, ...nforced brick factory bldg., to Wilson ..., 1213 Westwood Blvd., West Los ..., est. $15,000. J. Byers, 246 26 St., archt.

Ill., Brookfield—PLANT—Electro Motive ... Corp., c/o R. E. Chandler, $201 55 St., 1 ...ry, brick, concrete, steel service bldg., 1 ...d 2 story machine shop, cafeteria and ...rehouse, to R. Benson, 4744 W. Rice St., ...cago. Est. about $2,500,000. CD 8/24—...R 8/31.

Kan., Wichita — DAIRY PLANT — Arm... Creamery Co., G. S. Armstrong, pres., ...ory, 80x100 ft. brick, concrete, dairy plant, ...rias and Ash Sts., to Clarence Vollmer ...st. Co., 140 Main St., Approx. $50,000. ...rvest & Boucher, Brown Bldg., archts. ...9 1/8—ENR 2/17.

Md., Baltimore—METAL SHOP—Lloyd E. ...itchell, Inc., Cecil Ave. and 25 St., sheet ...tal shop, to Consolidated Engineering Co., ...E. Franklin St., $45,000.

Mass., Everett (br. Boston)—PLANT—Gen... Steel Products Co., 48 Auburn St., Chel... 1 story, 61x150 ft., brick, concrete ...nt 2 St., to M. Gordon, 159 Shurtleff St., ...lsea. Est. $40,000. CD 8/21—ENR 8/24.

Mass., Southbridge — BUS TERMINAL — ...rcester Street Ry. Co., 107 Main St., Wor... ...ter, 1 story, brick, steel, concrete bus ...minal addn. to F. X. Laliberte & Son, Inc., ...ntral St. $45,000.

Mich., Detroit—PLANT—Star Tool & Die ...rks, 1763 Twenty-Third St., 1 story, brick, ...el, concrete factory addn., to W. J. C. ...ufman Co., 939 Penobscot Bldg. Est. ...,000.

Minn., Watkins—PLANT—Watkins Coop... ...tive Creamery Assn., Watkins, 1 story, ...108 ft., cement block, milk processing ...nt to L. A. Borgert, 225 14 Ave. S., St. ...ud, est. $50,000. Kraft Cheese Co. lessee. ...1/23—ENR 8/31.

Mo., St. Louis—FACTORY—National Slug ...jector Co., 5100 San Francisco Ave., Zone ... completion 1 story, 30x150 ft. and 28x25 ...x50 ft. brick, concrete factory addns., to ...rch-Jarvis Co. Inc., 718 Locust St., Zone 1. ... $40,000 or more with equip. H. Van ...efer, 705 Olive St., Zone 1, archt.

N. H., Keene—FACTORY—Sprague & ...rston, Inc., Avon, St., 1 story, 65 x 100 ... brick, steel factory, to G. W. Scott, 28 ...shington St. Est. $40,000.

N. J., Paterson—GARAGE—R. C. N. Realty ..., 54 W. Broadway, 1 story, 100 x 178 ft., ...ck garage, to Gilmore Bros., 679 Market ..., est. $45,000. F. Vreeland, 140 Market St., ...ht.

N. C., Charlotte—WAREHOUSE—Ameri... Bakeries Co., 10 Pryor St., Atlanta, Ga., ...r. addns. to Southeastern Constr. Co., ...W. 2 St., $44,500. Bids 8/3, awarded ... CD 8/10—ENR 8/3.

Pa., Chester—PLANT—General Chevrolet ..., 71-89 W. 9t., industrial bldg., repair ...illies, etc., to J. R. Farrell, 4423 Market ..., Phila., $75,000. Howell Lewis Shay, ...chard Bldg., Phila., archts. Moody & ...chimson, 1500 Walnut St., Phila., engrs. ...arded Sept. 29.

Pa., Phila.—TRUCK TERMINAL—Associ... ...d Transport, Inc., W. A. Johnson, 1175 ...ay., New York, N. Y., 1 story, 90x100 ft., ...crete, steel terminal addn., grading, ...ds, to Lauter Constr. Co., Otis Bldg. Est. ...,000. Bids 9/13. CD 9/12—ENR 9/14.

Tex., Raymondville — PROCESSING ...ANT—Delta Canning Co., Raymondville, ...story, concrete, hollow tile, processing ...nt unit, force account. $45,000. CD 9/30 ...NR 9/28.

Tex., Ringgold — BOOSTER STATION — ...clair Refining Co., Fair Bldg., Fort ...rth, crude oil booster station, 5,000 bbl. ...y capacity, own forces. $50,000.

Tex., San Benito—PROCESSING PLANT—...D. Kirk & Co., 725 S. Sam Houston St., ...nd 2 story, brick, concrete processing ...t, metal lath, etc., force account. ...prox. $40,000. CD 9/20—ENR 9/28.

Tex., Skellytown—COMPRESSOR UNIT—...thern Natural Gas Co., Skellytown, ...ntract., install 1,000 h.p. compressor unit ... natural gas, purchase and hire, approx. ...,000. CD 8/5—ENR 8/3.

Tex., Thistle — DEPOT — Denver & Rio ...nde Western R.R. Co., A. E. Periman, ch. ..., Rio Grande Bldg., Denver, Colo., ...ght and passenger depot, to Groneman & ... Farmers & Merchants Bldg., Provo. Bids

Wis., Green Bay—WAREHOUSE—Shef... ...d Cheese Co. Inc., Green Bay, 3 and 4 ..., 50 x 142 ft., brick, rein.-con. ware... ...se addn. to Selmer Co., Northern Bldg. ...W. Surplice, City Center Bldg., archt.

Wis., Milwaukee—FACTORY—P. J. Kan... ...ner Co., 1400 E. Park Pl., Zone 11, 1 ..., 72 x 140 ft., concrete block factory, ...crete fdn. to L. W. Rosnow, 130 E. ...mbers St., Zone 12. CD 9/6—ENR 9/14.

Wis., West Allis (br. Milwaukee) — RE... ...ARCH BLDG. etc.—Allis-Chalmers Mfg. ..., 1126 S. 70 St., Zone 14, altering research ... and No. 1 foundry, 1 story 16 x 41 ft. No. 2 foundry addn., 1 story, 22 x 26 ft. and 1 story 14 x 30 ft., testing laboratories addns., to Meredith Bros., Inc., 121 E. Washington St., Milwaukee, Zone 4, $55,798.

Man., Winnipeg (St. Boniface)—STOCK PENS, etc.—Canada Packers, Ltd., Marion St., St. Boniface, 2 story, rein.-con. 70x225 ft. stock pens and 4 story, 100x150 ft., rein.-con., brick, staff house, to Bird Constr. Co., Ltd., 707 Confederation Life Bldg., Winnipeg, $350,000.

N. B., Moncton — PLANT — Canadian Liquid Air Co., Ltd., 1111 Beaver Hall, Montreal, Que., brick 60 x 100 ft. bldg., to Parsons Constr. Co., Ltd., Imperial Block, $40,000 plus. CD 8/3—ENR 8/10.

N. B., Moncton — PLANT — Canadian Liquid Air Co., Ltd., 1111 Beaver Hall Hill, Montreal, Que., oxygen producting plant to Parsons Constr. Co., Ltd., Imperial Block, Moncton, about $90,000.

N. S., Sydney—GARAGE, etc.—Irving Oil Co., Ltd., 175 Lower Water St., Halifax, garage, repair shop, service station, to Chappells Ltd., 80 Brookland, Sydney, est. $40,000.

Ont., Harriston—MILL—G. Walkey, Harriston, part 2 story, 60 x 100 ft., brick, concrete, grist mill. Owner builds. $50,000.

Ont., Toronto—FACTORY—Canadian General Electric Co. Ltd., Park and Wolf Sts., fractional motors bldg. to Anglin-Norcross, Ont. Ltd., 57 Bloor St. W., $300,000. Beck & Eadie, 230 Bloor St., W., archts.

Ont., Toronto—PLANT—Colgate-Palmolive Peet, Ltd., 64 Natalie St., plant addn., to Foundation Co. of Ontario, Ltd., 1158 Bay St., about $400,000. A. G. Facey, 991 Bay St., archt. CD 9/12—ENR 9/14.

★Que., Montreal—PLANT—Ogilvie Flour Mill Co., Ltd., Sun Life Bldg., construction of superstructure at 920-930 Mill St., near Oak St., completion of Royal Mills from 4 floors up, completion of dump house, head house, east and west elevators, concrete bridge over Mill St., to E. G. M. Cape & Co., Ltd., 820 Cathcart St., est. $1,000,000. CD 2/10—ENR 3/17.

Sask., Regina—GARAGE—Regina Chevrolet Sales, Ltd., Cornwall & South Railway Sts., garage, to Bird Constr. Co., Ltd., 7 and Smith Sts., Regina, about $80,000. P. Maynau, c/o owner, pres.

UNCLASSIFIED

PROPOSED WORK

★†Ala., Maxwell Field—RUNWAYS, etc.—U. S. Eng., Grant St. west of Westwood St., Mobile, exten. runways, repairing, replacing pavement in existing runways, taxiways, and apron, hangar, development of end zones. $1,261,000.

★†Calif., March Field (br. Riverside)—RUNWAY, etc.—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 14, runway with connecting taxiways, installing runway marker lights along runway. $2,500,000.

Calif., San Diego—LIVESTOCK HOLDING PENS—Cudahy Packing Co., North San Diego, reconstructing livestock holding pens, water troughs and feed mangers. $65,000.

Calif., Terminal Island—DOCKSIDE REPAIR YARD—Consolidated Shipyards, Inc., 5700 S. Eastern Ave., Los Angeles, dockside repair yard. $250,000.

Colo., Denver—STORAGE TANKS—Texas Co., University Bldg., 3 storage tanks, $47,000.

Conn., Darien—ATHLETIC FIELD—Town Bd. Educ., Darien, athletic field, grading and drainage work, constructing running track, tennis courts, baseball and football fields, $36,000.

Ia., Emmetsburg—AIRPORT—City, municipal airport. $30,000.

Kan., Marysville—AIRPORT—City, H. H. Hohn, city clk., $50,000 bond election Nov. 7, municipal airport. CD 2/1—ENR 2/3.

Ky., Greenville — RAIL TRANSPORT — Illinois Central Railroad Co., C. H. Mottier, ch. engr., 135 11 Pl., Chicago 5, Ill., rail transport installation. $187,400.

Mass., New Bedford—WHARF REPAIRS New Bedford, Martha's Vineyard and Nantucket Steamboat Line, New Bedford, Conn., repairing wharves at steamboat terminals.

Mich., Detroit—AIRPORT—Dpt. P. Wks., City Hall, expanding city airport, incl. 2 story, brick, steel, concrete administration bldg. addn., loading and unloading aprons, for 8 addnl. planes, etc., Connors Ave. $175,000. G. R. Thompson, City Hall, city engr.

Missouri—DISTRIBUTION LINES—Callaway County Electrical Co-Operative Assoc., Fulton, soon lets contract 65 mi. distr. lines, Audrain and Callaway Counties. $55,000. Frank Horton & Co., Lamar, engrs. CD 8/4—ENR 8/10.

Missouri—RURAL ELECTRIC LINES—Central Missouri Electric Cooperative, Sedalia, 75 mi. rural electric lines in Pettis, Saline and Benton Counties. $85,000. REA allot.

N. H., Laconia—HANGAR—Burbee Flying Service Inc., Twin State Airport, White River Junction, preliminary plans, 60 x 80 ft. prefabricated steel hangar.

†New Jersey and Delaware—AIR STATION WORK—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., engineer-architect services by Sherman & Sleeper, 501-3 Cooper St., Camden, N. J., addnl. work, Naval Air Station, Wildwood, N. J. and outlying field, Georgetown, Del.

†N. J., Fort Dix (br. Wrightstown)—RADIO RANGE FINDER—U. S. Eng., 6 and Walnut Sts., Phila., Pa., radio range finder.

†N. M., Clovis—PARKING APRON—U. S. Eng., 4 and Gold Sts., Albuquerque, parking apron, grading, 75,000 sq. yd. concrete. $120,000.

†N. Y., Romulus—SPRINKLER SYSTEM—U. S. Eng., 120 Wall St., New York, Zone 5, sprinkler sys. $365,000.

O., Akron—CONTROL TOWER—City, control tower at airport, $50,000. G. E. Soderberg & Co., Schneider, 1611 Larch St., engrs.

O., London—TRACK CHANGES, etc.—Pennsylvania R. R. Co., J. L. Gremitt, ch. engr., Broad St. Sta., Phila., Pa., track changes, fireproof tower, repairing signals. $154,268.

†Pa., Phila.—FIRE BOAT SLIP—U. S. Eng., 6 and Walnut Sts., fire boat slip at Hog Island.

R. I., Little Compton—BATHHOUSES—K. Clark, Warrens Point reconstructing 135 bathhouses, Warrens Point. $35,000 or more.

R. I., Newport — BATHHOUSES, etc. — Owner, c/o J. B. Call, Newport Cooper Assoc., 260 Thames St., preliminary plans rebuilding 130 bath houses, administration bldg. Hazard Beach.

S. C., Charleston — WHARF — Southern Ry. System, 15 and K Sts. N.W., Wash., D. C., rebuilding wharf, incl. 2 railroad tracks. $100,000.

Tex., Liberty—BELTLINE RAILROAD—Bd. District Comrs., c/o G. C. Jackson, chn., Anahuac, beltline railroad from Smiths Point on Galveston Bay in lower Chambers Co. to Romayor in northern Liberty Co. as first major unit for development deep water and industry within newly-created Chambers-Liberty Navigation Dist.

Tex., Marshall — BROADCASTING STATION—Marshall Broadcasting Co., Marshall, broadcasting station. $40,000.

Wash., Camas—SWIMMING POOL, etc.—Mayor H. J. Woodworth, City Hall, $50,000 bond election Nov. 7, outdoor swimming pool, bathhouses and tennis courts, for Crown Park. $50,000.

Wash., Port Angeles — TRANSMISSION LINE—Clallam Co. Public Utility Dist., Port Angeles, 50 mi. power transmission line from Port Angeles to Forks. $75,000.

Wash., Seattle—SHIPWAYS, etc.—Todd-Pacific Shipyards, 2400 11 Ave. S.W., alterations and addn. to shipways and of combing shipways, reconstructing scaffolding and decking. $380,000.

Wisconsin—AIRPORT—Owner, c/o R. A. Sutherland, archt., 259 E. Wells St., Milwaukee, Zone 2, three 590 ft. long hangars, 4 story, 100x75 ft. clubhouse, Ozaukee Co. $150,000.

Man., Brandon—PARK IMPROVEMENTS—Municipality, beautification of entrance to Assiniboine Park, other imprvs., $36,000. F. T. Williamson, City Hall, engr.

Newfoundland, St. John's—TRAM LINES—Newfoundland Light & Power Co., Ltd., St. Johns, tram lines on Long's Hill, Newtown, Le Marchant and Freshwater Rds., Mayor Ave., and Prince of Wales St. $50,000.

Newfoundland, St. John's — TUNNEL — Housing Corp., St. John's, 1,300 ft. long, 60 ft. deep, tunnel from Temperance St. to Quidi Vidi Lake, near Penitentiary grounds. $25,000. M. Searles, c/o Owner, engr.

Ont., Guelph—SWIMMING POOL—City, H. J. Leadlay, clk., swimming pool $70,000. H. S. Nicklin, c/o City, engr.

Ont., Kenora—PARK—Province of Ontario, Toronto, plans by Dpt. Hys. and P. Wks., Toronto, Ont. associated with Dpt. P. Wks., Winnipeg, Man., memorial park bldgs., on Manitoba boundary line. $150,000.

Ont., Oshawa—NATURAL GAS DEVELOPMENT—Bruin Products Ltd., c/o M. Greene, Oshawa, developing natural gas claims. $40,000.

Ont., Walkerton—ARENA—Walkerton Agricultural Society, Walkerton, 45x154 ft. arena, in Exhibition Park. $50,000. Architect, c/o J. P. Johnston, Walkerton.

Ont., Westboro—SWIMMING POOL—Nepean Water Area Residents Assoc., c/o H. G. Barnes, Westboro, swimming pool, auditorium, library and recreational arena. $75,000.

Que., Verdun — COMFORT STATION — Municipality, A. H. Burgess, clk., 2 story, 35x35 ft., brick, stone comfort station, concrete fdn. $25,000. H. Hadley, City Hall, engr.

BIDS ASKED

Bids Asked October 16

N. S., Halifax—SHED—Executive Secty., c/o National Harbour Bd., West Block,

UNCLASSIFIED (Bids Asked, Cont'd.)

Ottawa, Ont., reconstruct shed 21, exterior Halifax Harbour, $200,000-$250,000. CD 3/9.

Bids Asked October 17

Ont., Oakville—PIER REPAIRS—Secy. Dpt. P. Wks., Ottawa, repairing West Pier. $28,000. Plans deposit $20.

Que., Montmagny—WHARF—Dpt. P. Wks., Ottawa, Ont., wharf reconstruction. $45,000. Plans deposit $20.

Bids Asked October 20

Wisconsin—RURAL ELECTRIC LINES—Columbus Rural Electric Cooperative, Columbus, 41 mi. electric distr. sys., Wis. 6-4031-C3 Columbia Co. Plans deposit $5. Wisc. Elec. Coop., 303 E. Wilson St., Madison, engrs. CD 7/13—ENR 7/20.

Bids Asked November 2

N. Y., Rye—AIRPORT IMPRVS.—Dpt P. Wks., County Office Bldg., White Plains, airport imprvs., grading, hangar sites, installing fences, sewers, and parking lots, Rye Lake. $400,000.

Bids Asked

†**Me., Bangor**—LIGHTING SYSTEM—U. S. Eng., 31 St. James Ave., Boston, Mass. (selected bidders) lighting sys., No. 19-033-45-Neg-46. $5,500. CD 10/5.

†**Mass., Waltham**—MOTOR POOL FACILITIES—U. S. Eng., 31 St. James Ave., Boston (selected list bidders), motor pool facilities. $9,500.

★**Montana and Washington**—OIL PIPE LINE CARRIER, etc.—North Pacific Pipe Line Co., R. Hines, pres., Billings, Mont., 1,100 mi. 10 in. crude oil pipeline carrier between Harlowtown, Mont. and Seattle, Wash. $15,000,000; twelve 80,000 bbl. cap. each, steel crude oil storage tanks, Renton, $600,000. CD 9/25—ENR 9/28.

LOW BIDDERS

★†**Calif., Fairfield** — AIRFIELD BLDGS., etc.—U. S. Eng., 1209 8 St., Sacramento, Zone 8, addnl. A.T.C. housing, paving, utilities, at Fairfield-Suisun Army Air Field, Spec. 965, from Lawrence Constr. Co., 3020 V St., Sacramento, $341,549 (requested permission to withdraw bid); from Moore & Roberts, 693 Mission St., San Francisco, and G. W. Williams Co., 10 California Dr., Burlingame, $592,645.

†**Calif., Oakland**—RUNWAY—U. S. Eng., 1209 8 St., Sacramento, Zone 8, runway at Oakland Municipal Airport, Spec. 1400-5, from Piazza & Fiuntley, 175 S. Montgomery St., San Jose, $389,953.

†**Calif., Port Chicago**—WRECKAGE REMOVAL—U. S. Eng., 1209 8 St., Sacramento, Zone 8, removing wreckage consisting liberty ships and locomotive, from Port Chicago channel, Spec. 398-O, from Lebeauf & Doherty Co. & J. D. Proctor, Box 247, Port Richmond, $450,000.

†**Calif., Wilmington**—TRACKAGE—U. S. Eng., 761 S. Figueroa St., Los Angeles, Zone 14 Oct. 2, addnl. trackage at Wilmington Classification Yard, No. 28, from H. B. Nicholson, 572 Chamber of Commerce Bldg., Los Angeles, $68,861.

†**Md., Patuxent River (br. Wash. D. C.)**—BOAT MAINTENANCE FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., Sept. 29, boat maintenance facilities, NOY 9218, from Dean & MacDonald, Hollywood, $151,362. CD 5/31.

★†**Md., Patuxent River (br. Wash. D. C.)**—RUNWAY, etc.—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., Oct. 4, addnl. runway and taxi strip, Naval Air Station, NOY 10621, from C. J. Langenfelder & Son, 3427 New Philadelphia Rd., Baltimore, $1,031,647. CD 9/26.

†**Tex., Denton** — AIRPORT — Civil Aeronautics Admin., P. O. Box 1689, Fort Worth, Zone 1, Oct. 3, airport paving Schedule 2, from Austin Road Co., 1813 Clarence St., Dallas, $190,850; seeding, drainage, excav., Schedule 1, from Central Constr. Co., Inc., Monroe, La., $169,380. CD 9/26.

CONTRACTS AWARDED

†**Ark., Texarkana**—AIRPORT EROSION CONTROL—Dpt. Commerce, Civil Aeronautics Admin., P. O Box 1689, Fort Worth, 1, Tex., erosion control, Prop. 4-45-933 to Vilbig Constr. Co., 817 Bourbon St., Dallas, $33,890, (Correction-contractor). CD 9/25—ENR 9/28, under CA.

★†**Calif., Coronado** — GRADING, etc. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., grading, paving, on Spanish Bight, Naval Air Station, Spec. 15011, NOY 10614, to R. E. Hazard & Sons Contg. Co., 2548 Kettner Blvd., San Diego, $739,400. CD 9/23, under LB.

Calif., Long Beach—BEARING PILES, etc.—City Harbor Dpt., 1233 El Embarcadero, mfg. rein.-con. bearing piles and driving same and sheet piling for wharf at Berths 4 to 7, Spec. HD-177, to Macco Constr. Co., 815 Paramount Blvd., Clearwater, $489,139.

R. R. Shoemaker, 1233 El Embarcadero, engr. Bids 9/22, awarded 9/28.

Calif., San Diego—PIPELINE—San Diego Gas & Electric Co., 861 6 Ave., 82,200 lin. ft. gas pipeline serving National City, Chula Vista and La Mesa, to Midland Constr. Co., 5677 Otis St., South Gate, approx. $300,000.

Conn., East Hartford—LIGHTING FACILITIES—Pratt & Whitney Div., United Aircraft Corp., 400 Main St., lighting facilities, Rentschler Field, to Baldwin-Stewart Electric Co., 222 Pearl Pl., Hartford, $32,350. Albert Kahn Associated Architects & Engineers, Inc., 345 New Center Bldg., Detroit, Mich., engr.

D. C., Wash. — TANK FOUNDATIONS — Sinclair Refining Co., 56 St. and Schuylkill Ave., Phila., Pa., tank fdns., to Potts & Callahan Constr. Co., 15 and G Sts., $25,000. Awarded 10/4.

†**Florida**—AIR FIELD BLDG.—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 3, bombing training bldg., at Avon Park, Drew and MacDill Fields, Inv. Jax-45-39, Contr. W-08-122-Eng-541, to Sultenfus & Scott, 803 James St., Tampa, $36,881.

★†**Fla., Banana River**—HANGAR—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., hangar with two 2 story leantos, Naval Air Station, NOY 10439, to A. Blair, American National Bank Bldg., Montgomery, Ala., $591,948. CD 8/5—ENR 8/17.

†**Fla., Boca Raton**—TENT CAMP—U. S. Eng., 575 Riverside Ave., Jacksonville, Zone 3, temporary tent camp, to L. F. Preu, 1440 Alton Rd., Miami Beach, Zone 39, $27,400.

†**Fla., Eglin Field (br. Crestview)**—HANGAR DOORS—U. S. Eng., Grant St., west of Westwood St., Mobile, Ala., fabrication, construction, erection hangar doors, Contr. W-01-076-Eng-2262, to Byrne Doors, Inc., 1150 Griswold St., Detroit, Mich., $213,671.

†**Fla., Jacksonville** — RUNWAYS, etc. — Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., seal coat for runways, landing mats, Naval Auxiliary Air Stations at Greene Cove Springs and Cecil Field, NOY 10886, to James H. Craggs Constr. Co., P. O. Box 600, Ocala, $60,484.

†**Ga., St. Simon's Island**—HANGAR STORAGE SPACE—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. hangar storage space, Naval Air Station, NOY 10457, to A. Blair, American National Bank Bldg., Montgomery, Ala., $37,064.

†**Ill., Chicago** — PROPERTY IMPROVEMENTS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., imprv. Wacker Dr. property, disposal center, NOY 10598, to Gerhardt F. Meyne Co., 7 S. Dearborn St., $76,014.

†**Ill., Glenview**—AIR STATION FACILITIES—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. facilities, Naval Air Station, NOY 9665, to Gerhardt F. Meyne Co., 7 S. Dearborn St., Chicago, $51,418.

★**Mass., East Boston (sta. Boston)**—AIRPORT FILLING, etc.—Commonwealth of Massachusetts, Dpt. P. Wks., 100 Nashua St., Boston, placing approx. 10,000,000 cu. yd. hydraulic fill for embankments A and B, at General Edward Lawrence Logan Airport to Gahagan Const. Corp., 90 Broad St., New York, N. Y., $2,170,000. CD 9/29—ENR 10/5 under LB.

†**N. H., Grenier Field (P. O. Manchester)**—AIRFIELD BLDGS—U. S. Eng., 31 St. James Ave., Boston, Mass., airfield bldgs., 19-023-45-NEG 37, to Rich Bros. Constr. Co., 424 Park Square Bldg., Boston, Mass., $31,333, est. $35,000. Bids 9/29.

†**N. M., Clovis**—AIRFIELD BLDGS., etc.—U. S. Eng., Albuquerque, bldgs. for flying clothing, Auxiliary Air Field, Contr. W-29-005-Eng-265, to M. G. Bowles, Clovis, est. $28,632; ground ranges, Clovis Auxiliary Air Field, Contr. W-29-005-Eng-264, to Marchant Bros., Albuquerque, est. $31,138.

†**O., Lima**—TANK WASHING PITS—U. S. Eng., 700 Union Guardian Bldg., Detroit, 31, Mich., tank washing pits, etc., Lima Tank Depot, Contr. W-20-064-Eng-1223, to de Koning Constr. Co., Kalamazoo, Mich., $50,390.

†**Ore., North Bend** — RUNWAY SHOULDERS—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., stabilized runway shoulders, auxiliary air station, NOY 10664, to Kern & Kibbie, 7031 N.E. Halsey St., Portland, Zone 16, $798,943.

†**S. C., Greenville**—POORMAN RANGE—U. S. Eng., Post Office Bldg., Savannah, Ga., Poorman range at Army Air Base (Conestee), GREEN-3-45, to C. Y. Thomason Co., Greenwood, $76,945. Bids 9/22.

†**Tenn., Memphis**—AIRBASE BLDGS, etc. —U. S. Eng., Grant St. west of Westwood St., Mobile, Ala., addnl. WAC facilities, incl. outside utilities, Contr. W-01-076-Eng-773, Air Support and Ferry Command Base, to Building Constructors, Inc., 524 Dermon Bldg., $32,636.

†**Tex., Love Field** (br. Dallas)—AIR FIELD FACILITIES—U. S. Eng., 221 W. Main St., Denison, addnl. WAC facilities, Contr. W-41-242-Eng-332, to B & S Constr. Co., 3010 N. Lamar St., Dallas, Zone 2, $36,390.

†**Tex., Pyote**—GROUND RANGES—U. S. Eng., Albuquerque, N. M., ground ranges, Contr. W-29-005-Eng-265, to Ponsford Brothers, 914 E. Missouri St., El Paso, $41,425.

Tex., Skellytown — PIPELINE — Northern Natural Gas Co., Skellytown, 15 mi. 4 to 12 in. pipeline for gathering sys., own forces, $70,000. CD 5/31—ENR 6/8.

†**Utah, Ogden**—PLATFORMS, etc.—U. S. Eng., 580 State St., Salt Lake City, 113 concrete platforms and retaining walls for igloos at Ogden Arsenal, to Chytraus Constr. Co., 436 S. 4 West St., Salt Lake City, approx. $47,000. Bids 9/30.

N. S., Dartmouth—GRADING, etc.—Dpt. Transport, Ottawa, Ont., addnl. airport development, incl. grading, repairing runways and parking areas, drainage, taxi strip, etc., to Acadia Const. Co. Ltd., 101 Upper Water St., Halifax. Est. $190,000.

Ont., Armstrong—AERODROME DEVELOPMENT—Dpt. Transport, Ottawa, addnl. aerodrome development, incl. clearing and burning, grading and drainage, to Storms Contg. Co. Ltd., 49 Givens St., Toronto, Ont., about $36,000.

Ont., Chatham—COAL DOCK, etc.—Pere Marquette Ry. Co., H. A. Cassil, ch. engr., General Motors Bldg., Detroit, Mich., combination coal dock and cinder pit, to Johnson Bros. Co., Ltd., 37 Market St., Brantford, $27,500. CD 9/1—ENR 9/14.

Que., Ste. Anne De Bellevue—AUTOMATIC SPRINKLERS—Dpt. P. Wks., Ottawa, Ont., automatic sprinklers at Ste. Anne De Bellevue Military Hospital, to Dominion Sprinkler Co., Ltd., 7220 Alexandria St., Montreal, $86,000.

LEGAL NOTICE

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of Engineering News-Record, published Thursday each week at Albany, New York, for October 1, 1944.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Joseph A. Gerardi, who, having been duly sworn according to law, deposes and says that he is the Secretary of the McGraw-Hill Publishing Company, Inc., publishers of Engineering News-Record and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, to wit:

1. That the name and address of the publisher, editor, managing editor, and business manager is: Publisher, McGraw-Hill Publishing Company, Inc.; Editor, Waldo G. Bowman; Managing editor, Edward J. Chase; Business Manager, Albert E. Paxton, all of 330 West 42nd St., New York City.

2. That the owner is: McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York City. Stockholders holding 1% or more of stock: James H. McGraw; James H. McGraw, Jr; James H. McGraw, Jr., Curtis W. McGraw and Edwin S. Wilsey, Trustees for: J. H. McGraw, J. H. McGraw, Jr., D. C. McGraw, C. W. McGraw; Curtis W. McGraw, Donald C. McGraw, all of 330 West 42nd Street, New York City; Edwin S. Wilsey and Curtis W. McGraw, Trustees for J. H. McGraw, Jr., Madison, New Jersey; Mildred W. McGraw, Madison, New Jersey; Wilson G. Lamcks, Spruce and Canal Sts., Reading, Pa; Grace W. Mehren, 73 No. Country Club Dr., Phoenix, Ariz.; Margaret Stamp, 1418 Rose Virginia Rd., Wyomissing Park, Reading Pa.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

J. A. GERARDI, Secretary.

McGRAW-HILL PUBLISHING COMPANY, INC.

Sworn to and subscribed before me this 29th day of September, 1944.

[SEAL] ELVA G. MAKIN

(My commission expires March 30, 1946)

Proposed Advertisements see p. 27